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Our Chat With You

THROUGH misadventure we announced last month that it was our intention to inaugurate the new department, "In the Highways and Byways of Canada," this month, when, in fact, we had no such intention, the work of collecting the necessary material and photographs only having just been commenced.

We are making progress, however, and shall expect to institute the department in the course of a month or two at most. In the meantime we would once more reiterate our statement that this department's success will lie largely with our readers, upon whom we depend to mail us material and photographs concerning their own sections, or of other regions of Canada with which they may be familiar.

Next month, it is our intention to publish a comprehensive article on the Dominion Steel Company's plant at Sydney, N.S. This article will contain not only many photographs of interest, but will also help the reader to grasp some of the rudiments of steel-making. Many great improvements have been and are being made at Sydney, and the plant promises to become an important factor in the upbuilding of Canada. Our readers, too, will be given a general idea of the great iron ore deposits of Newfoundland and the coal mines of Nova Scotia.

Our doctrine:
To assist in the development of the great resources of the Dominion of Canada through the dissemination of conservative information relating thereto, and to give entertainment, refraining from discussion of religious, racial, or political questions.

Contents

A View of the Pacific Highway near Vancouver, B. C.— <i>Frontispiece</i>	- 4
Canada's Gateway to the Pacific By R. S. Somerville	- 5
Canada's Magnificent Water Powers—By George W. Austen	- 12
Editorial - - - - -	- 14
The Stayer (Story) - - - - - By George Pattullo	- 15
What Irrigation is doing for Western Canada—By J. D. Duthie	- 19
Notes from the Canadian Capital By Charles Bishop	- 25
On Lake and Stream - - - - - By Robert Page Lincoln	- 29
Canada Through the Camera - - -	- 33
Ships and Shipping - - - - -	- 37
The Vaulting Rainbow - - - - - By Robert Page Lincoln	- 57

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A view of the Pacific Highway, near Vancouver, British Columbia

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Canada's Gateway to the Pacific

VANCOUVER has been aptly described by no less an authority than Lord Burnham, president of the Imperial Press Conference, as a "port of predestination."

Through its superb geographical position at the head of tidal water navigation and its fine natural harbor embracing eighty miles of water frontage and forty miles of anchorage, Vancouver is destined to become more and more the spout through which Western Canadian products will pour on their ways to the markets of the world. This fact was recognized several decades ago and became a certainty when the senior Canadian transcontinental system laid rails through from Port Moody to the present terminus on Burrard Inlet.

To anyone living in or visiting Vancouver, the leading impression is of the sea. Ships and shipping,

By R. S. Somerville

harbor and shore, give that maritime aspect to the daily life of the community which always overshadows every other channel of activity. The smell of the sea is always present, for Canada's gateway to the Pacific is open to business the year through. Ships arrive regularly from the Orient, from Australia and New Zealand, from New York, from the Motherland, from France, and from South Africa, and tramps appear occasionally from all over the world. The waterfront is on a smaller scale as cosmopolitan and as colorful as those of London or Liverpool, and the residents are never allowed to overlook the fact that they reside in a city which is fast assuming a place among the best known ports of the world.

Vancouver is fortunate in being provided with a ready-made harbor, minus reefs or shoals, practically landlocked, the entrance being through the First Narrows. Once inside, ships lie in calm water. The main harbor is large enough to accommodate hundreds of vessels, and in addition there is a vast anchorage in English Bay, which divides the central business area of the city from a large residential district in Kitsilano. The extension of English Bay, known as False Creek, backs into the very heart of the city, and the water is deep enough to permit vessels of twenty-one foot draft to navigate at low tide. This adjunct of the tidal water system provides excellent transportation facilities to hundreds of industrial establishments. Forty acres of mud flats near the entrance to the creek were reclaimed a few years ago, and to-day every site



The entrance to Vancouver Harbor



The Standard Bank Building, Vancouver's tallest business structure

is devoted to manufacturing purposes. What was until then an unsightly waste at low tide is now humming with industry, the combined payroll of the various plants averaging about \$6,000 a day.

Increased shipping means increased accommodation, and port development has therefore been advocated aggressively during the past ten years. Until a comparatively short time ago nearly all the large wharves were owned or controlled by the Canadian Pacific Railway, but with the constant arrival of rival shipping lines it was recognized that the port facilities must be made more adequate. The Dominion Government therefore constructed a grain elevator and dock, the former with a capacity of a million and a quarter bushels of grain and the latter being eight hundred feet long and three hundred feet wide.

The Government will shortly award the contract for a second and much larger dock, to be called the Ballantyne pier, which will be 1,220 feet long and 340 feet wide. The Canadian Pacific Railway will also build a third big pier for ocean-going vessels at an early date, while another important addition to the port's facilities will be a dry dock 850 feet long, capable of handling the largest vessel which can pass through the Panama Canal. The contract for this improvement has been let by Ottawa, and construction will be started at an

early date. The Vancouver Harbor Board is also acquiring up-to-date loading equipment, and cargoes are now handled much more expeditiously than in the past.

Vancouver has an active and aggressive competitor in the shipping business in Seattle, and the energy displayed by the port authorities there has provided the necessary incentive for the work of fitting up Canada's western outlet along the most modern and adequate lines.

Not so long ago the Canadian Pacific Railway had the shipping trade of Vancouver, both trans-Pacific and coastwise, largely within its possession. To-day, many lines are competing for the business. The Canadian Robert Dollar Company established its headquarters in Vancouver a few years ago, and is now an aggressive factor in the Orient carrying trade. It has a number of freighters plying between Vancouver and Singapore, and is at present engaged in carrying vast quantities of British Columbia lumber to China. The Canadian Government Mercantile Marine is operating regular services out of Vancouver to Australia and India, and has so far met with no difficulty in finding ample cargoes. The Blue Funnel and the Harrison Direct Lines have both added to their services from the Motherland to British Columbia via the Panama Canal. The Royal Mail Steam Packet has opened an office in Vancouver to take charge of its joint service recently inaugurated with the Holland-American Line.

A regular three-weekly freight service will be maintained from Vancouver to European ports. The Isthmian Line, a subsidiary of the United States Steel Corporation, is increasing its coast to coast service from New York to Vancouver, and will in future have a steamer in port every ten days. The Williams Line, which operates four vessels in the same service, has recently made Vancouver a port of call. The Canadian-Australian Line is also adding to its fleet of freighters, and the volume of trade between the two Dominions is increasing steadily.

A recent survey of the regular lines entering the port of Vancouver shows that there are nine lines with connections to the Orient; three to Australia; two to British India; ten to the United Kingdom and Europe via the Panama Canal; three to the Atlantic coast; and eight to Pacific Coast ports of North and South America, which will give an idea of the rapid development of Vancouver as a port.

The completion of the Panama Canal has been a vital factor in this development. It put Vancouver over six thousand miles nearer Liverpool, and cut the voyage to twenty-three days' steamer sailing. It made possible the shipment of prairie wheat via the Pacific. The formal opening of the new grain route took place in November, 1917, when a British vessel carried 100,000 bushels of Alberta wheat to England, and landed it in perfect condition. It is claimed by the advocates of the Western grain route that within a decade Burrard



A view of Granville and Hastings streets, the tactical financial centre of the city



Nature is at her best in Stanley Park, Vancouver's chief playground

Inlet will be adorned with a string of terminal elevators, all working to capacity, and that the bulk of the Alberta crop and part of that of Saskatchewan will eventually reach the Old Country markets via the Pacific seaboard, the rail haul to the Coast being much shorter for a large section of the prairie wheat belt than it is to the head of the Great Lakes. At present the Vancouver City Council is co-operating with the Harbor Board in an effort to convince Alberta grain growers that it is more profitable and satisfactory to send their

grain West than East. The fact that the movement of grain westward may be continued throughout the winter months is also a factor.

One of the fortunate developments of the war from the Vancouver viewpoint was the establishment of the shipbuilding industry on a large scale. Of course, the wooden shipyards went out of business soon after the Armistice was signed, but two large steel shipbuilding plants were firmly established, and are still being operated successfully, notwithstanding that the steel materials have to be brought in

from the East. Nine of the forty-four ships of the Canadian Mercantile Marine fleet in commission at the end of last year were built in Vancouver, and several other 8,800-ton and 8,300-ton vessels were constructed for foreign or on private account. The future of this industry, however, is uncertain.

A resolution is now before the Canadian Parliament urging the creation of free areas in Vancouver and other points, the business interests of the Coast city having been advocating such a step for the past two years. The foreign trade area is merely an extension of the principle of the bonded warehouse, being an area or section of land in which goods may be landed, stored, reconditioned, repacked, mixed with other goods, manufactured or dealt with in any manner whatever, without payment of Customs duty. If goods are sent inland they are subject to Customs duties in the ordinary way, but if exported they pay no duties. The prediction is made that with such an area established, Vancouver would soon become a great transshipment centre as well as an important manufacturing centre for the trans-Pacific trade.

While the importance of Vancouver as a port has been emphasized, the largest Canadian city west of Winnipeg has several other excellent reasons to expect continued and substantial growth. It is the commercial centre of a rich province of 395,000 square miles, containing vast and varied natural resources. Mining, lumbering, fishing, and agriculture in all its forms are contributing to the business expansion of the British Columbian metropo-



A panoramic view of the city, with mountains in background



Photograph, Copyright by Leonard Frank, Vancouver, B.C.
The Twin Peaks, popularly known as the Lions, which stand guard at the portals of Canada's gateway to the Pacific



Photograph, Copyright by Leonard Frank, Vancouver, B.C.
Ships depart from Vancouver for all parts of the world



Crescent Beach, one of Vancouver's many summer playgrounds

lis, established just a third of a century ago. It is the distributing centre of the entire mainland, and the financial hub of the whole province. Practically every important enterprise west of the Canadian Rockies is directed from Vancouver. As population increases throughout the hinterland and production of all kinds is enlarged, the city is bound to reap a direct benefit. There are no rival trade communities of any size on the mainland of British Columbia. Outside of New Westminster, which almost adjoins Vancouver, the only other important centres of population are Nelson, Vernon and Prince Rupert, and these are too far away to give Vancouver serious competition.

Vancouver is not only an ocean port, but it is an important railway terminus, a natural corollary. The Canadian Pacific and the Canadian National systems have their Pacific terminals there. The Great Northern runs into Vancouver, and over its line the Union Pacific and the Chicago, Milwaukee and St. Paul have running rights. The Pacific Great Eastern Railway and the Kettle Valley Railway are provincial government lines, the latter opening up the southern interior as far as Nelson and the former running through the mountain ranges and the fertile valleys to the north, and when completed, probably by the end of the present year, it will extend to Prince George. All these lines contribute to the commercial

pre-eminence of the metropolis, and have placed it in an unassailable strategic position from the standpoint of trade.

While the present population of the city proper is about 110,000, the suburbs of South Vancouver, North Vancouver, and Point Grey contain

at least 40,000 more, and Coast prophets declare that eventually Vancouver will become the second largest city in the Dominion. It is ideally situated for a huge citizenship, the plateau of Point Grey stretching from English Bay to the Fraser River, providing ample room for a population of half a million. In this great area, nearly every home would have a commanding view of the mountain ranges, and of the encircling salt water in the Gulf of Georgia. It is no idle boast to declare that the Pacific Coast city is one of the most beautiful cities in the Dominion and that its natural setting is unsurpassed.

In common with every other young community in Western Canada, Vancouver has had its booms and periods of depression, but its growth has been steady. It can boast of a skyline along the water front which would be a credit to much larger and older centres. Its office buildings and business blocks are numerous and imposing, and its residential sections are among the most attractive of any Canadian city. With increasing maturity, business is gradually assuming permanent stability. Economic strength is being gained, and in future the nightmare of the real estate shark and the wild-cat promoter will be largely unknown. The civic indebtedness is large, but not too formidable, and it was incurred through the necessity of



Vancouver presents an appearance which would do credit to a much larger city



The skyline of Vancouver reflects its importance as the Pacific metropolis of Canada.



Vancouver's prosperity has been due in large part to her lumber mills. Here is one of the many that contribute to the city's welfare



British Columbia fishing fleet leaving for the grounds

providing public services and paving for a large centre in the space of a comparatively few years. Thirty-six years is a short time to produce a modern city, complete in every detail, but in the case of Vancouver this is exactly what has been accomplished, which statement applies largely to the province as a whole, not seriously opened up to settlement until a quarter of a century ago.

Transportation facilities have been and are the greatest need of the province, and road-making is far more costly and difficult in British Columbia than in the East, owing to the mountains. Land clearing and surveying are also difficult. There have been many calls on the provincial purse, and among the largest is the construction of the Pacific Great Eastern Railway. For that reason the project of erecting a great provincial university in Vancouver has not yet been inaugurated. An ideal site has been chosen on the Point Grey headland, overlooking the Gulf of Georgia. Construction of the buildings was to have been started in 1913, but the depression of that year and later the Great War made delay imperative. The choice of Vancouver as the site of the provincial university met with approval on all sides, and the need of such an institution west of the Rockies has been demonstrated by the fact that there is a present enrolment of students of twelve hundred, the work being carried on in tempo-

rary and totally inadequate buildings in the city.

Besides the University, Vancouver's educational facilities include five high schools, one technical school, and twenty-nine public schools, in addition to two theological colleges and several high-grade private schools. The teaching staff of the city includes 411 instructors in the public schools, 73 in the high schools, 23 in manual training, 13 in domestic science, and seven special instructors. The total number of students enrolled is approximately eighteen thousand.

As has been said, there is a pronounced picturesque quality in Vancouver's population. There is a large number of Orientals in the city, and the Japanese, Chinese and Hindus rub shoulders with the whites. The original Canadian inhabitant, the Indian, is also numerous on the Coast. These peoples lend color and variety to the life of the city, and take an active part in its activities. The Japanese and the Indians are very partial to the fishing trade, the Hindu is found most frequently in the lumber mills, and the Chinaman is either a market gardener, a vegetable peddler, or a laundry worker. Oriental stores are numerous in the Coast cities, and Vancouver possesses a Chinese theatre, a Japanese hospital, and a Hindu temple. Of the three races, the Hindu retains most of his native appearance because of his use of the turban and his long black hair. It is a common

sight to see rich Orientals being driven along the streets in limousines, and the night life in Chinatown is an unfailing source of interest to visitors to the city. Many Oriental students are attending the public and high schools, and a few have gone through the University.

The Oriental menace is one of Vancouver's greatest worries. It has visions of some time being swamped by the sons of the Far East. They are coming in steadily, and the regulations of the Federal Government are regarded as highly ineffective. Vancouver has a present population of 12,000 Orientals and entire blocks have been taken over by them. Farther afield, there is the same uneasiness. The famous fruit-growing belt in the Okanagan Valley has been invaded by the Chinaman and Japanese, and thousands of fruit-growing areas are under their control. The same is true of the Fraser Valley, the market garden of Vancouver. The little brown man is beating the white man at his own game, largely because he works harder and longer. Many of the largest berry growers in the Mission district are Japanese, who have acquired fortunes in a few years.

British Columbia, and more particularly its cities, is confronted with the Asiatic problem for two reasons. One is its position on the Pacific, and the other the possession of a mild climate suited to the people of the

Continued on page 47



Photograph by Canadian Photograph Company, Vancouver, B.C.
Vancouver has many imposing edifices. Here are seen, on the left, the Hotel Vancouver, and, on the right, the Court House

Canada's Magnificent Water Powers

By George W. Austen

SPEAKING in London recently, on his return from the British Empire Trade Congress in Canada, Lord Desborough spoke enthusiastically respecting Canada's water-powers. These were, in his opinion, so wonderful that Britain's position as the premier industrial exporting country of the world was threatened by them. If Canada should, in the coming days of great growth and development, attain manufacturing power in keeping with her endowment of water-power sites, then this country was, he believed, bound to become paramount.

Often visitors see and appreciate assets or resources in a country when the home population is indifferent or contemptuous. We, in Canada, have developed about 80 per cent of the power generated by water in the whole British Empire, and we have about one-third of the total available water-power capacity of the Empire. But our development is far short of what it might be. Canadians themselves fail to appreciate what a mighty national asset they have in these water-powers, contiguous to timber areas, mineral areas, and industrial

areas. Our 19,500,000 available horse-power could furnish power for a nation four or five times as large, with industries correspondingly large. Considering the coal difficulties of to-day, and the prospect that anthracite will be scarce and high-priced in any case, because of approaching exhaustion of the mines, Canada's wealth in water-powers should make her virtually independent. The soft coal of Nova Scotia and the lignites of Alberta can be made to serve our soft coal needs, and electricity will have to supplement the anthracite needs of Central Canada.

It may be news to most Canadians that they have electric generating stations with one-third the power capacity of similar stations in the United States. The United States generates about 7,000,000 horse-power from water-sites. Canada generates, or is constructing equipment for

generating nearly 2,500,000 horse-power. Contrast this with Britain's 210,000 horse-power, India's 142,000, Australia's 100,000, New Zealand's 60,000 horse-power. We have developed four times as much water-power as Austria-Hungary, seven times as much as Brazil, twice as much as France, four times as much as Germany, one and a half times as much as Italy, three times as much as Japan, twice as much as Norway, twice as much as Sweden, and four times as much as Switzerland. In point of population, Canada easily leads the whole world in production and use of electricity.

Of the 2,305,000 horse-power developed, Ontario and Quebec produce and use more than 1,800,000 horse-power. Is not the availability of this power, at prices much lower than the average run of power prices in the United States, one reason for the extraordinary growth of Canadian manufacturing? The census of 1917 showed our factory production to be worth more than three billions. This was \$5,000 for every worker. If we had had to use coal for power, either steam or electric, the great variety



Kipawa River Falls, Timiskaming, Que.

Photograph, courtesy Canadian Pacific Railway

of small manufacturing which made this result notable would have been lacking. In Ontario power is sold in the cities at rates varying from about \$10 up to \$25 per horse-power for year. In Quebec, rates practically as low are made in the cities and towns within easy transmission distance of the big power company installations. In Ontario, at any rate, the growth of manufacturing has been so heavy as to bring about a distressing shortage on the Niagara system of the Hydro-Electric Power system, and the development of the Chippawa canal project, estimated to yield 350,000 horse-power, has been undertaken to ensure a sufficiency.

Compare the plenitude of power in any of the Eastern Canadian districts, at a cent or two per kilowatt hour, with the condition of electricity generation in England. England uses 80,000,000 tons of coal per annum to generate electricity. Water-power installations for all Britain have no more capacity than the Hydro-Electric system of Ontario. In London alone, there are 70 different power distributing bodies, 70 generating stations, 49 systems of generation, 10 different frequencies, 24 different distribution voltages, and 70 different methods of charging and prices.

The average size of the producing unit is under 700 kilowatts, and the average size of station is less than 6,000 kilowatts. Sizes like these would be laughed at in Ontario or Quebec, except in the smaller cities or towns. This British power costs from \$50 to \$60 per horse-power, because coal now is \$15 to \$18 a ton. The average Hydro-Electric rate in Ontario is about \$18. It is no wonder that Lord Desborough should see the advantages of Canadian water-powers. Sir Charles Parsons, who invented the steam turbine, has prophesied that "at some time more or less remote—long before the exhaustion of our coal—the population will gradually migrate to those countries where the natural sources of energy are most abundant."

According to a report made in 1916, about 30,000,000 horse-power of electrical energy is generated in the United States, but of this 80 per cent is raised by steam. Water power development was less than 5,000,000 horse-power, and now is about 7,000,000 horse-power. Our development, per capita, is therefore much in advance of any country on the globe.

At present prices, the cost of water-power installations of a large size is

about \$200 per horse-power. The cost before the war was from \$100 to \$150. Canadian development of two and a half million horse-power has involved a capital investment of nearly \$300,000,000. The Canadian development seems to have been much more skilfully engineered than the American. In 1912, 5,000 American steam stations showed a financial surplus of 4.1 per cent over fixed charges, while water power companies showed only 1.78 per cent. But the real reason for the slowness of water-power development in the United States, compared with Canada, has been the gobbling by private corporations of water-power rights, until the Federal Government, in Roosevelt's time, suddenly put up the sign "hands off." Since then the conservationists have prevented utilization of remaining water powers, and sites already owned by the group of related corporations have been leisurely developed according to local demands. Canada's water powers remaining in the Crown are now carefully guarded from exploiters, but legitimate advances are not stayed, and our growth in utilization of them is steady and sure. Canada will yet be a great exemplar of how natural sources of power can be utilized.



The West Kootenay power station, Bennington Falls, near Nelson, British Columbia

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CANADA, THE UNSURPASSED OUTDOORLAND

TO the lover of the great outdoors, Canada holds forth an endless attraction. Its various claims to interest are as original as they are diversified. No matter what the demand of the outdoor lover, Canada can satisfactorily solve the question. Would one fish for the lordly Atlantic salmon; let him visit the streams of Quebec, New Brunswick, or Nova Scotia. Would one fish for sea trout; the Maritime Provinces beckon. Would one combine piscatorial pursuits with a summer spent in a peaceful land, still retaining its quaint customs and rural simplicity, then Quebec, Nova Scotia, Prince Edward Island, or Cape Breton Island fill the bill to perfection. A river cruise on the St. Lawrence or in and amongst the Thousand Islands will thrill the sightseer. Should your inclinations tend to botany, geology, or wild-life study, a trip to almost any part of Canada will assure you volumes of matter. Are you a devotee of photography, you can rival the best that a Dimocks has produced; flashlights of moose and deer of exceeding value. Do you have a passion for mountains and mountain life? The myriad regions of Canada will more than satisfy.

This, in brief, is Canada; but that is only ten lines of the story. You will find it a copious volume. It will not be to you a pale novel but an invaluable work of art that will hold your interest to the last page. And like all worthwhile "books," it will be one you will "read" time and again and ever find something new to engage your attention!



NATIONAL SELF-CONFIDENCE

WITHOUT confidence in one's ability to forge successfully to the front, an individual soon finds that he is woefully handicapped, lacking the punch that will "put him across." A man may have all the qualifications of greatness stored up in his being, but

unless he has the bulwark of self-confidence in his heart, all his efforts will be in vain; there will always be the insistent cry within him, "I can't do it," "it's above me," "the opposition is too great." What is true of the individual is also true of a nation. A nation's confidence in itself may not materially be the foundation of its success, but it is the tingle of inspiration that carries it on to its ultimate goal; it is the thrill that over-rides opposition and proclaims national solidarity of purpose. A man is whatever he makes himself out to be in his own mind; successful or non-successful, as the case implies. A nation stands in the same limelight, naked to the same cold glare. Canada finds itself in that position and a rather curious audience is sitting back, wondering and waiting, mentally repeating "She may succeed; you can't tell."

To strive for success and yet lack several of the attributes that make for that success is working under difficulties. Yet Canada is not in that position. She has everything that possibly can make for recognition and a positive position among the nations of the world. She has the envied solid foundation upon which to build—material things in abundance. Her gigantic fur trade, dating from the early centuries up to the present day; her vast forest domain, rich in lumber and pulp-wood possibilities; her fisheries, from the Atlantic seaboard to the shores of the Pacific, leading over any other country in the world; her immense wheatlands, pointing to agricultural supremacy; her intensified forward progress in the industrial field, her iron trade and ship building—these are but a few of the mighty things that are the making of Canada; her triumphant bulwark.

Nor is this category of qualifications complete without mention of Canada as a playground. That Canada will ultimately be the recreation centre of the North American continent is practically taken for granted, for as the woods and waters elsewhere are tamed, the desire to enjoy one's self under conditions much the same as the Creator left the world on the seventh day, becomes as a second instinct. The number of tourists who will enter Canada in the year 1921 will be more than proof of that assertion. Canada is fortunate, too, in having such an immensity of country open to the pleasure seeker in this respect. That portion of Canada useless for agriculture reverts as the finest location imaginable for the man or woman in quest of rest and outdoor enjoyment. This makes for a most desirable sense of balance and proportion.

Truly all that Canada needs is an inward assertion of her self-confidence. With this conviction carried out, anything is possible.

The Stayer

By
George Pattullo

THE wisdom of our ancestors consisted frequently of platitudes; in a fine poetic frenzy, a sapient individual long ago had the temerity to announce that things other than gold also glisten. Now, anybody can detect that for himself with half an eye. There are bald heads and celluloid collars, to cite only two; and it is of celluloid collars I would speak.

The subject should be approached with circumspection. I once knew a man to be defeated for the governorship of a State because of levity in regard to a celluloid collar—not that he wore one; but that some fiend in human form spread the report that he did. And he laughed at first, not deigning denial.

Mark well what followed, friends. In rural districts they smashed him for being a dude; on the other hand, a very considerable element in the cities laughed raucously at the pretensions of a statesman whose nineteen-inch neck was fretted by celluloid. In vain did he ramp and roar and deny. The landslide bore down. From the moment the whisper started, his career was as dead as any door nail.

This moving recital is by way of introducing the Sheriff of Bill Green County, who never wore a collar at all—at least, not one of the detachable kind. Celluloid enters later.

About two months after his election, he sat one day in his office in Dodge City, playing pitch with the county attorney, the tax collector and Judge Sam Brazzleton. Sam was a lawyer, but every lawyer in Western Texas is "Judge." There is no valid reason why they should not have occupied their minds with pitch. None of them had anything to do. Sam's practice was confined to pounding the desk in front of the jury box to smithereens when pleading at court sittings for the acquittal of some hapless wight who was three crops and seven children behind a livelihood; the tax collector knew it was idle folly to go after arrears, more certain suicide than hanging; and as for the other two, Bill Green County had been so good

for the past three months that their jobs were sinecures.

The Sheriff's office was in the courthouse, a big, two-story brick structure, surrounded by an iron fence and the town square. The citizens of Bill Green used the fence as a hitching rail when they came to Dodge City.

"Wow!" said the Sheriff, wiping the perspiration from his neck. He tilted back in his chair to consult a thermometer suspended from a nail. "Holy cats, boys! It's a hundred and three."

The month was June, the hour two o'clock in the afternoon. The square lay under two inches of red, powdery dust; the sun smote on tin roofs and wooden awnings; the air pulsed; Dodge City dozed to a droning of flies, its merchants and idlers sunk in a species of coma, gathered on stools in the shade.

There entered Lewis of the Spade Ranch, ushering a man of about thirty years, tall and of remarkable tenuity. Said Lewis: "Howdy Sam! shake hands with Mr. Gus Peeler. Sheriff Bud Gary, Mr. Peeler. Them other two gentlemen are Mr. Evans and Mr. White."

The introduction having been punctiliously acknowledged, the Sheriff asked hospitably: "Would you all like a drink?" On which the stranger raised a hand, opining that the heat was too cruel.

He was dressed like a cow-man, in a grey suit without a coat, wide brown felt hat, riding boots tapering at the heels—a soberly alert man, of strong features and a hard sort of affability. Sheriff Gary observed that he wore a celluloid collar, without a tie.

"Are they keeping you pretty busy?" inquired Mr. Peeler, nodding toward an array of placards on the wall.

The Sheriff shook his head sadly. "Bill Green County," he said, "is like a young ladies' seminary, only more so. No, sir; I've been in office eight weeks, and my only duties so far have been to lend Seth Long two dollars. Oh, yes—a nester did blow in here from Garza and asked me to go find his dog for him. Say, Lewis, that feller was like to cuss me out."

Mr. Peeler indulged in a slow smile, measuring the Sheriff meanwhile with his grey eyes. That observant official had opportunity to note that there were splotches of brown in them.

"The laugh was on Bud," Lewis cut in. "He was just bound to be Sheriff. Ran twice before, Mr. Peeler, and got licked so hard both times, it jarred all his kin-folks back in Arkansas. But he just kept a-coming until we all got tired and put him in to be rid of him."

"He's a stayer, then?" Peeler queried.

"Stayer is his middle name," said Judge Sam. "He'll stay with anything. I've seen him draw two cards to a flush when everybody was raising."

They all laughed, and the owner of the Spade leaned over to whisper in the lawyer's ear. Sam shoved back his chair with alacrity, instantaneously smoothing his features to the portentous expression reserved for clients, which he had copied from a photograph of Joe Bailey.

"Sure," he said. "Say, boys, you all will have to excuse me. Lewis wants me to draw some papers for him and Mr. Peeler. See you all later. Cash in for me, Bud."

"All right," said the Sheriff laconically. "That makes nine more you owe me, Judge."

Dismissing this reminder with a careless snap of the fingers, Sam followed the rancher out. Mr. Peeler stepped back to shake hands with the men at the table. For a moment his gaze held that of the Sheriff. The one was steady and piercing, the other coolly resolute. The two were curiously alike; they belonged to the same type. Both were handsome men after a fashion, but the Sheriff was fair, whereas Peeler was black as the jack of spades.

Was it imagination, or a trick of his sight?—the Sheriff could have sworn that he saw the other's pupils flinch. But the impression was so fleeting it left him in doubt.

"I hope I'll see you again," said Peeler pleasantly.

When they had gone, the Sheriff muttered, "Humph," although he had

no special occasion for doing so. The county attorney, gathering up the cards, asked, "Who is this man Peeler? He seems a right nice fellow."

"Ye-es," Bud answered reluctantly, "but he wears a shiny collar."

Knowing his prejudice against them, the two grinned. The tax collector proposed that they go to dinner.

In front of the Alamo Hotel, they came upon a knot of curious idlers gathered around an automobile. It was a battered red machine, 1906 model, but this was fifteen years ago, before automobiles had come into general use in the West. A smutty-faced, snub-nosed youth of about eighteen held the wheel, striving manfully not to look self-conscious.

"Who owns that one-candle outfit?" the Sheriff inquired. A bystander replied: "It belongs to a feller who just come in to see Lewis."

"Humph," the Sheriff muttered again, stroking his chin.

Whatever Gary's opinion, Dodge City was strongly disposed in the visitor's favor. Many were anxious for a ride as an experience, but wild horses could not have dragged the admission out of them. As though divining it, Mr. Peeler invited a number to take a spin, and kept his driver busy all afternoon whirling townspeople around the square, or on short dashes along the road toward Spade headquarters. Also, he distributed cigars, but very judiciously. He did not hand them around so that every loafer in the

town could boast of having received one, but drew them casually from his pocket, when in conversation with a citizen and politely inquired if he smoked.

"Say," said the Sheriff to Lewis, "what is that guy doing here? What is he, anyhow?"

and said: "Don't tell anybody, Bud; he's going to buy two hundred sections off of me."

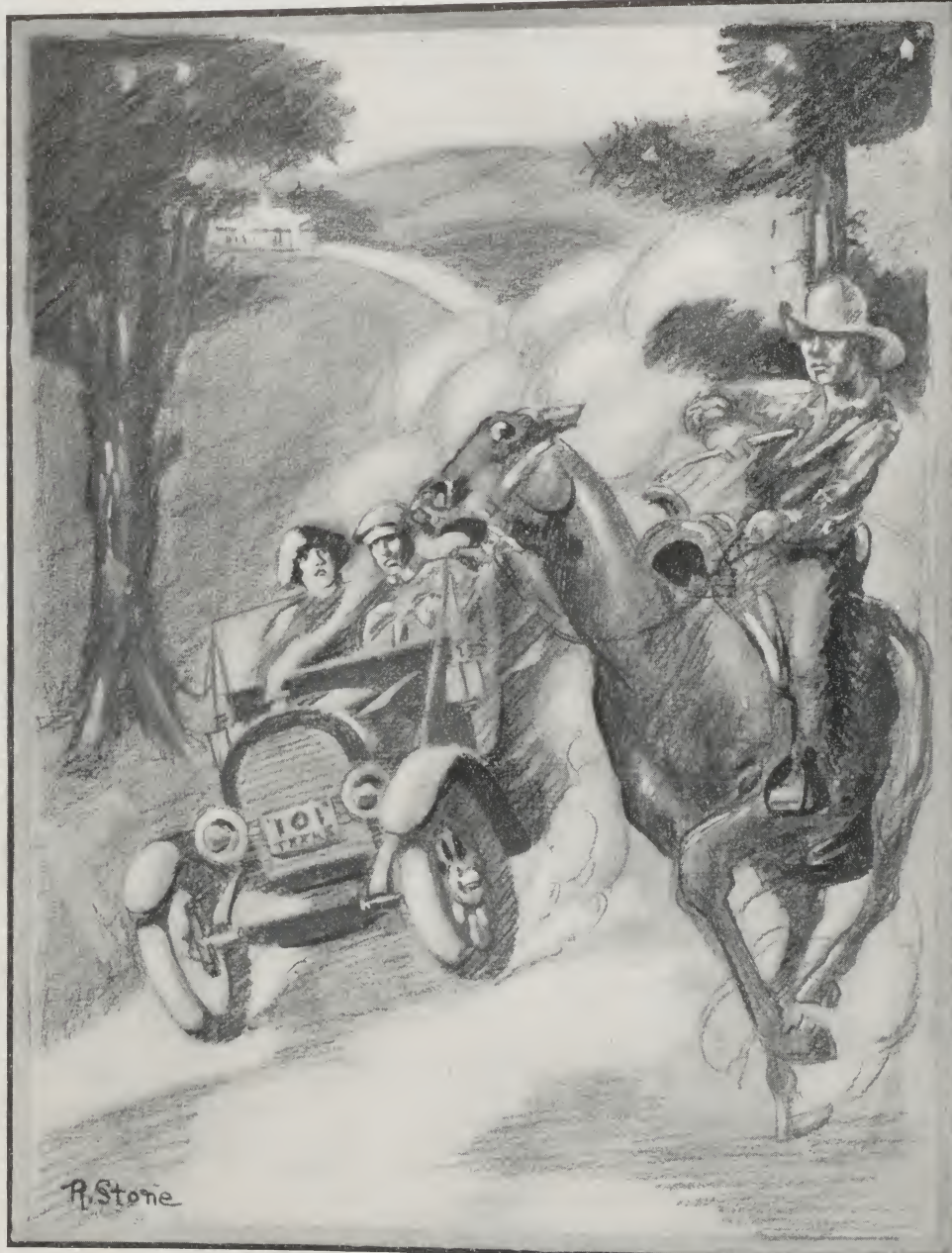
Two hundred sections amounts to one hundred and twenty-eight thousand acres, which would involve a deal of half a million dollars. It was a minute before the Sheriff recovered sufficiently to inquire what he proposed to run on this land.

"Sheep mostly. He's going to put them on that rough country and run a bunch of steers in the north corner. I tell you, Bud, this fellow knows his business."

Before another day dawned, Gary had occasion to think that Peeler knew other things than business.

After supper, Bud saddled a horse and started for the Griffith farm, which was about three miles north of town, within the Shoe-Bar range. It comprised five thousand acres and was the absolute property of Miss Pauline Griffith, aged twenty, who had inherited it from a hard-fisted father. Griffith had taken up this land during those years when cowmen met incoming settlers with a bunch of armed riders and turned them back or left them beside the trail, very dead

indeed; but persuasion or threats of violence could not rid the country of Amos Griffith. He persisted, and so prevailed. And when he died in a fit of rage and in the fullness of his strength, he left eight sections of as fine corn land as the Panhandle boasted—also, a motherless daughter. Pauline had inherited more than wealth. She was strong and good to



Down the long lane from the Griffith house came a red automobile. It was spurning the ground, and his horse tried desperately to wheel and fly from the monster

The owner of the Spade became enthusiastic.

"He's sure a cow-man," Bud. I showed him a bunch over in the west pasture and he spotted those ticky ones a mile off."

The rancher was just about to step into his buckboard. He hesitated, as though debating within himself whether to make a further confidence,

look upon, with brown hair and blue-grey eyes, which were her mother's contribution; her father bequeathed, besides the land, a considerable amount of iron to her character, so that, although only seventeen when she came into possession of her property, she worked it admirably and kept a force of eleven men under fair control. And despite lean years, she had prospered. The nester contents himself with scraping the earth's surface and trusting to divine prodigality; Miss Griffith did some irrigating and farmed according to approved modern methods.

As he ambled along, Bud glanced at her broad fields of young corn. To be sure, she was attractive enough without them, but doubly so with them. The fences were in excellent repair and everything about the place bespoke thrift.

It had become his habit to ride out in casual fashion three nights a week. Sometimes he encountered other gentlemen there, who also had chanced to drop in casually. Sometimes he had her to himself, on which occasions they sat out on the vine-veiled porch and said very little of anything at all. Love-making in Bill Green County is a non-committal proceeding. One goes to call at regular intervals, making an elaborate affectation of dropping in by accident, and sits uncomfortably on the edge of a chair and smokes, and converses on such sentimental topics as the condition of cattle and crops, dearth of water, and the latest forecasts of when the railroad will penetrate northward. This method has been thoroughly tested, and adopted as capital for taking observations. For, at the end of a year or more, one either feels that he is on sure ground and so endeavors to place the acquaintanceship on a more intimate footing, or doubts begin to assail him, and he goes discreetly about his business.

No doubts troubled Mr. Gary. He had held down the Griffith porch only a matter of a quarter of a year, but already considered himself well advanced on the blissful road. Had they not sat there night after night, he and Pauline, saying nothing at all? It is true that the silences in which they became bogged would have proved irksome to a less persistent wooer, but the Sheriff was persuaded that she understood him thoroughly.

"Whoa, boy. Steady. Whoa, consarn you," he said, jerking on the slack reins and jabbing with the spur.

A tremendous chug-chugging and popping sounded ahead of him. Down the long lane from the Griffith house

came a red automobile. It was spurning the ground, and his horse tried desperately to wheel and fly from the monster. Had facing the machine meant instant death, the Sheriff would have faced it. Suppose the beast should run away with him, with the ramshackle car tooting triumphantly at his heels!—then farewell to all his air castles, a long farewell to Pauline.

The Sheriff gritted his teeth and sawed on the bit. And so they fought it out in the middle of the road, the horse spinning round and round in a mad effort to gain its head, the Sheriff holding him up and striving to keep clear of the barbed wire fence. It looked as if a serious accident were unavoidable. The car did not slacken speed. When it was within forty feet, he heard a feminine voice cry out, "Oh, stop. Do stop, or he'll pitch into the fence."

No heed to this; instead of slowing down, Peeler hit it up another notch and whirled past the Sheriff; but he had the grace to take the extreme edge of the road. Unable to do anything else, the horse reared. Bud eased the reins to prevent a tumble backward, and he lunged over the fence.

Now, there is nothing in the form of peril which a rider of the range country dreads so much as becoming entangled in wire. The Sheriff kicked his feet free of the stirrups the instant his horse touched, put his hands on the horn and vaulted out of the saddle. Feeling the barbs tear his skin, the horse began to plunge.

"He'll be cut to pieces," Bud groaned.

By great good fortune the staples of the top strand were jerked loose and the animal got his legs free. Then he stood still, shivering. The Sheriff knelt and examined his hurts.

"He was like to ruin a good horse on me," he said.

And he chalked up score number two against Mr. Peeler. Score number one was already entered: had he not taken Miss Griffith for a ride?

Gary let down the fence and led his horse into the road again with great difficulty, the animal pulling back and fighting. Then he returned to town, resolved, if he should meet the automobile coming back, to compel him to stop by the use of his gun. He did not meet it.

Had not Mr. Peeler been carrying Pauline as a passenger, the Sheriff would have arrested him next day for speeding, or any other offence that suggested itself, because of the injuries to the horse.

"But I won't do it now," said he. "No, sir. I ain't going to let them call me a sorehead."

Therefore he allowed the incident to pass; but during the week that followed he did not pay his customary visits to the Griffith home, vaguely laying a share of the blame on Pauline. Why did she take up with a total stranger? The waitress at the Alamo kept him fully apprised of all that was transpiring, however, and he knew that Mr. Peeler divided his time between the Spade headquarters and the comfortable frame house standing on a knoll that overlooked the Griffith sections. Once he saw Pauline in town. She stopped to speak to him, refraining from any reference to the encounter in the lane. She bemoaned the difficulty of obtaining steady and competent hands to do the work on the place.

"I reckon I'll have to hire a boss," she said laughingly. "I've always ramrodded the work myself, but it's getting too heavy since I bought that bottom land."

The Sheriff managed to smile, and then his glance fell on Peeler. On the spur of the moment he observed: "I thought you'd done hired one."

"No," said Miss Griffith, with one of those sweet, steady feminine smiles that lay a man out cold, "but perhaps I will."

Her subsequent behavior lent color to this resolution. The 1906 model had blow-outs twice a day between Dodge City and the Griffith farm. Moreover, they motored over a good deal of the neighboring country, Peeler being anxious to show Pauline his intended purchase.

That deal, by the way, hung fire. The visitor made several shrewd objections to the deed as drawn up by Judge Sam, and expressed various misgivings as to the title. These were of a character, however, that threw no doubt upon his good faith; they merely evidenced caution, and Lewis thought none the less of him on that account. But they delayed the transaction, and two weeks passed by.

At last the Sheriff resolved to "come to a show-down," as he called it. This business of holding aloof and permitting a rival to monopolize Pauline's time might be soothing to pride, but it did not land him anywhere. So he sent a messenger one afternoon to notify Pauline that he contemplated a visit.

She had just finished her supper when he arrived. Mr. Peeler was not on the premises, nor had Bud met his machine in the lane.

"Well," she said carelessly, as they shook hands, "you're quite a stranger."

"You're so busy," said the Sheriff stiffly.

"I busy? I haven't been doing anything but enjoy myself."

"That's too much for me," said the Sheriff.

Miss Griffith said "Is it?" and settled herself comfortably in a rocking chair.

The conversation lagged. He was oppressed by a memory of Peeler's persuasive attentions; he was hurt that she should have given an interloper so much of her time. Himself, he had never been able to secure

more than three engagements a week, he reflected. What he did not take into account was that he had never made the slightest attempt to see her oftener than this; but that is a pecu-

chair. "He's been a perfect gentleman with me. I like him."

"I reckon he's all right," said the Sheriff sulkily, "but if you think such a heap of him, why don't you make him quit wearing that doggoned shiny collar?"

In any other mood Pauline would have laughed, but it so happened that she had refused Mr. Peeler at four-thirty of the clock that afternoon, which fact she carefully concealed from the Sheriff. Accordingly she bridled again, sniffed, and bade the Sheriff a dignified "Good night." He returned to town in a black humor.

As he was dusting off his chair next morning, the tax collector entered and requested Bud, as a favor which he would be glad to reciprocate at some remote period, to step across to the bank and cash a cheque for him.

The Sheriff complied.

He was standing beside the teller's window, counting his money, when Peeler came in. They exchanged a formal "Good morning," and Bud wetted his thumb and continued the count. The visitor presented a cheque. At this the cashier stared uneasily, turning it over and about in his fingers, while he appeared to ponder what to say. At last he murmured an excuse and stepped back to confer with the president.

"Good morning, Mr. Peeler," said the official, coming forward. "Could you get Mr. Lewis to endorse this? Of course, we have no doubt it's all right, but we have to stick to certain forms, you know."

"Lewis ain't in town," Peeler replied in his drawling bass. "Will you just send a wire at my expense to Roswell? Just ask 'em if I'm good for it. Here, give me a blank. I'll write it out and you can send it."

He wrote a message to a Roswell bank, carefully weighing the words, and left a space for the President's signature. It ran:

"How does G. Peeler's account stand with you?"

Curtis and on page 48



liarity of mankind. So, when opportunity arose

in the course of their talk to make a reference to Peeler, he made it slightly.

Now, never, never discuss a rival with the object of your affections, much less criticize him. It is the surest known method of losing. Every criticism hoists him upward.

Miss Griffith bristled immediately. She inquired of Bud what he meant, and when the Sheriff attempted weakly to equivocate, requested him to come out with his accusations like a man and not drop underhanded hints. It ended in a very pretty spat.

"What've you got against him, anyhow?" Pauline demanded, leaning forward in her

Instantly a spurt of flame darted from the fissure. Peeler let his hands drop, a dazed expression coming on his face. He clutched his side and sank forward against his mound

What Irrigation is Doing for Western Canada

IN 1919, a farmer in one of the 'semi-arid' patches of Southern Alberta obtained from twelve acres of his land a revenue of nearly eight thousand dollars. The hen that laid this golden egg took the form of a crop of alfalfa, which that season threshed out 784 pounds of seed to the acre, valued at 85 cents a pound. In addition to this, the grower had some valuable hay selling around thirty dollars a ton, and there remained in the soil the fine foundation stock, to reproduce a succession of hay and seed for years to come.

What a wonderful advertising cameo for Canadian soil!

But we have not set out on an advertising campaign. Were that the objective, perhaps even a better start could be made than with the alfalfa item—impressive and exactly in accord with fact as the story is.

It is but one of thousands of scarcely less remarkable results obtained from favoring natural conditions, assisted by brains and perseverance, which should not, however, be dug out from the invariable context of unpropitious circumstances, brainlessness, or lack of application on the part of the human element.

This particular alfalfa success was reached by little else than by giving the growing plant a drink when it needed it; in other words, by what is now familiarly understood by the term "irrigation."

With irritating frequency in these days, when any subject of Canadian development is under tribute, the

By J. D. Duthie

almost deprecatory excuse of "infancy" is dragged in, as an apology for certain lop-sided features, or to impress the awakened interest with a still more imposing vision of *what may be expected if that is but the child*.

Well, here is about the very latest twin pair of infant prodigies—Alfalfa and Irrigation; and without straining a single adjective it may be said with perfect truth that no twins ever gave such promise of budding into a robust and enormously reproductive maturity.

Twenty-five years ago, alfalfa was hardly known in the United States, and not at all in Canada, unless it might be seen at an odd time in flower-pots, like sprigs of shamrock around St. Patrick's Day.

Now it is universally claimed as the "King of Fodders," leaving all competitors far behind in its reproductive and staying powers.

At first sight it would seem that it can subsist on very little liquid refreshment, but that is only because its tap roots develop such wonderful persistency in digging for the drink—sometimes, it is said, going forty feet deep into the sub-soil after the water.

But when its surface roots are generously supplied with moisture, there is all the difference in the world in its behavior, and we have a result

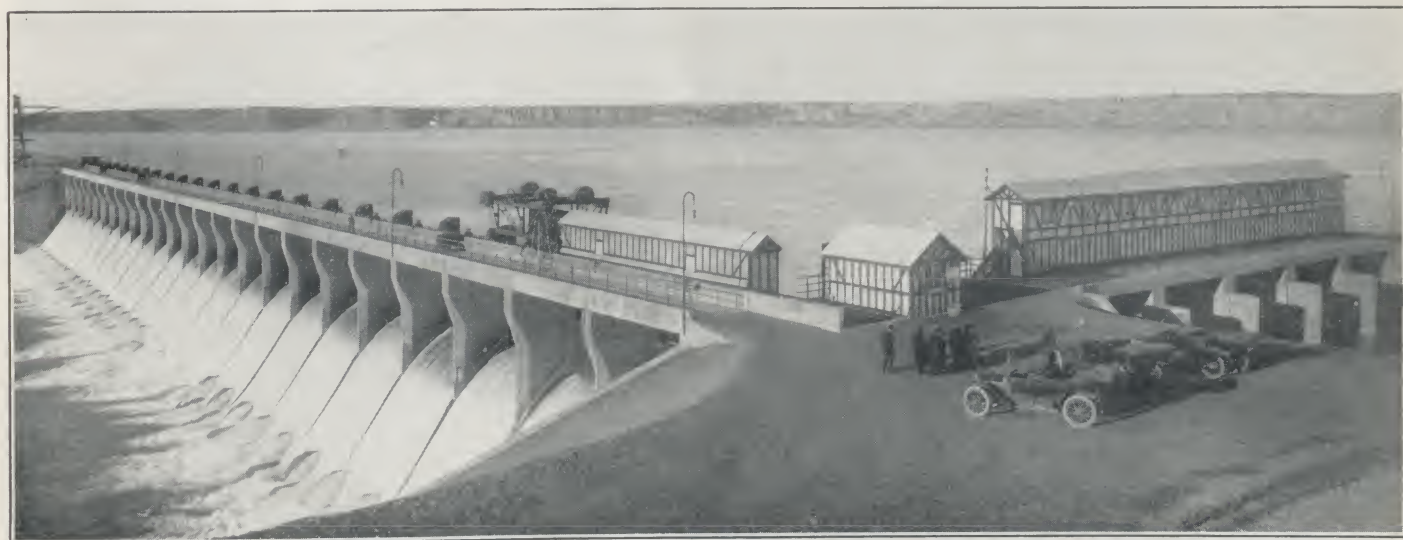
such as is described in the case referred to at the beginning of this article.

The owner of the twelve-acre field near Brooks, Alberta, would very properly resent the inference that, because his fields were artificially supplied with water, he was farming in what was normally a very dry region, in a territory that could only be handled by irrigation, or by what has most unfortunately been named the process of "dry farming."

There is no such thing or possibility as *dry farming*, far less is there any antagonism between what that system really is and the process of irrigation.

The great apostle of "dry-farming" himself definitely states, and he reiterates the fact, that there is no conflict between scientific soil culture and irrigation. These two methods most sympathetically supplement each other. The fundamental principle upon which the success of the "dry farming" system is based is that of the economical use of water—it matters not whence it cometh, whether direct from the clouds, or from the flowing streams, ditches, reservoirs or wells.

There isn't a single portion of the earth's surface that has yet been exploited where field crops of any kind are or can be raised, that does not have its dry spells. For the greater part, the earth's vegetation is regularly watered by the gentle precipitation from the clouds; but into even the most favored spots there now and again comes an unwonted period of drought that brings the harvest down



A view of the diversion dam and headgates on the Bow River Eastern Section of Canada's greatest irrigation scheme



Potatoes thrive splendidly under irrigation



Alfalfa will produce two prolific crops a year on irrigated land



Cattle grazing on mixed pasture

to a negligible point, which not infrequently spells famine in these particular districts.

In the very nature of things, such a calamity would be an impossibility in Canada were its population fifty times greater than it is to-day. In certain parts, however, notably in Southern Alberta and Saskatchewan, there are several millions of acres of the richest arable land, on which crops of astonishing quality and abundance are raised when the season is favorable, but which are more subject to dry spells than the surrounding country.

These "dry-belts" have had their bumper crops, without assistance, time and again, but not always have they been so fortunate as even to realize a good average crop; and yet they might never have had a miss had they been able to turn on the tap at the right moment.

Could the farmers in these "semi-arid" localities have depended on the rain coming at the growing and filling-out period, as they can bank on the dry atmosphere at the time of ripening and harvest, they would never have known a season in which they did not harvest a bumper crop.

The whole business, and the invariable effect of irrigation is to give the assurance of a full crop every year, instead of once in a while according to the caprice of the weather, by providing moisture at the time the crop must have it to live.

Is there anything in the gift, or within the capacity of men that can make a more irresistible appeal to the interest of human nature or human cupidity wherever it flourishes or "grubs for a living," as an agency that succeeds in transforming a doubtful possibility into a dead certainty?

And this is neither more nor less than what irrigation means and is accomplishing in Western Canada, or wherever it is in operation—on the arid wastes of the Nile delta, or in the grubbiest back yard of the city artisan, who will have his bit of garden truck or sweet peas to "knock the stuffing"

out of anything in the horticultural wonders of the city.

In writing this appreciation of Western Canada's development in the irrigated farm lands, the purpose of the writer is far other than that of merely re-hashing the wonderful official statement of fact that has already had a fairly generous treatment from the newspaper and magazine press.

Descriptive details and statistics of what has been done are now common property to a wide field of interest, but there's a something beyond all its magnificent equipment and story of material progress that has not yet dawned upon many minds, and which, indeed, could not be set out in dead letter-press.

There's a potentiality wrapped up in the idea that not even the wildest dreams of the enthusiasts, who first sponsored the project, or of the capable, energetic, and no less confident fellows who are carrying on the work to-day, have yet realized, if they have so much as visualized it.

"The wan thing this land needs, John, to make it the richest country on airth, is *meesture*." This sentiment was confided to the writer one hot July afternoon in 1907, by the late Richard Waugh, father of Canada's most com-

petent and much respected representative in the Saar Valley commission.

"Meesture" was, of course, old Richard's mother tongue for moisture. We sat under the grateful shade of a maple on the Experimental Farm at Brandon, swapping guesses as to the probable threshing returns of a nearby field of oats.

It was a great crop for an unusually dry season, but then it had been given a chance in the character and subsequent treatment of its seed-bed that the average Western husbandman does not give his crop.

One belief in common between this old Scot and the writer was that there were few greater sources of satisfaction on earth than to stand by and witness the results of one's own creative efforts in growing things in the great out-doors.

"Man, there are feow things I like better than tae get my fingers intae a bit o' sappy soil that ye ken has some growth in it!"

There was a "sense" in the old man's eyes that carried a wealth of meaning far beyond the capacity of words; an enraptured feeling that could never be defined—like the charm one conceives in the fascination of certain human personalities, that, once "defined," ceases to exist.

The conversation developed the further common feeling that there was little satisfaction, and no guarantee of success worth the name in cultivating a patch of soil, if not so much as an "emergency ration" of some sort of moisture was available, should the heavens utterly fail in the hour of crisis.

Depending largely on the contour of the land, there are vast tracts on this



Furrow method of irrigating young cabbage

North American continent over which the natural precipitation is very light, and somewhat fitful at that. Even there, we find cereals and other crops that are by no means to be lightly regarded. They were only possible, however, because of the pains taken by the farmer, first of all in seeing that his seed-bed was fitted to the case, with its dust blanket, etc., according to the very definite requirements of so-called dry farming.

Then, again, in order to throttle the weed crop, and to safeguard against depletion of humus, the "dry farmer" must allow approximately one-half of his cultivated area to lie fallow every season; whereas, under irrigation, the same land by a proper rotation of crops produces its full harvest every year. Not an acre of the farm need be summer fallowed in any season.

It may be set down as a postulate that what Canada needs above all things is immigration, and immigration of the type that best of all will fit itself, not only to the cultivation of the great territory still lying fallow, but to *making homes*, and thus anchoring itself to the soil.

There is only one way in which a great fertile land, such as the greater portion of the Canadian West is, can be satisfactorily *settled*, and that is by men and women establishing *homes* upon it, and rearing children who will

find it the most congenial thing in life to perpetuate the farming instincts of their fathers.

Hitherto, as in the case of all new developments, there has been a big, rascally representation of the exploiter type, who came from anywhere with but one objective—to mine the soil for all they could get out of it, in the least possible time, at the smallest outlay of time, money and labor, and then return to where they came from, carrying the spoils with them.

The one way to combat this is to encourage the home-maker, and discourage the soil-miner by every conceivable plan or law that can be set in motion to that dual purpose.

It may be set down as another postulate, that the best "makings" of the real Canadian citizen, who is at once a producer and a home-builder, is to be found in the British Isles, or among the farming stock of the United States—not necessarily English-speaking, but who are of those races one rejoices to clasp hands with, and who come with a whole-hearted purpose of subscribing to the very simple requirements of Canadian citizenship.

Now, the men, especially, who hail from Great Britain have never been accustomed to "dry farming" as we know it. Their soil is "sappy," with very rare exceptions, right through the year, and they don't quite get the

idea that there can be humus or any other manner of plant food in the fine "sandy-looking dust" that covers so much of our prairies.

They know all about crop rotation, and the necessity for regularly giving back to the soil what they can of the fertility they have taken out of it, but they don't just "get" the idea of allowing half the land to lie fallow every season; least of all are they attracted to a waste of sun-baked, wind-swept territory, on which not so much as a fair-sized shrub can be seen between the homestead and the skyline, and from which they can only hope to realize a fair crop once in a while.

But they will be attracted to a set of conditions in which, in response to well-directed labor, they can be humanly certain of a crop *every year*. They will not grudge hard work, and lots of it, but they will not be parties to unrequited toil, not to speak of their hard-earned invested capital, that holds out little hope of return.

Probably nothing that has yet been done will do more in the near future to develop legitimate and permanent settlement in Western Canada than the means provided by the various irrigation interests to guarantee a constant, easily directed and controlled supply of moisture.

"The basis of all true agricultural



A field of irrigated wheat, near Brooks, Alberta



Setting out cabbage plants

prosperity is mixed farming, and irrigation is especially adapted to it. In every case where it has been put to the test in competition with ordinary farming methods, it has been proved to increase production from 25 per cent. to 100 per cent." These are official figures, not only from small experimental patches, but collected from wide areas of crop.

Not only is there this great asset of increased yield in favor of irrigation, but there is the further and possibly greater advantage in the unquestioned guarantee of a crop every year that irrigation does give to the man who will but do his part, which, after all, is perhaps not more arduous than any other phase of farming. Even if he toiled a little harder, he finds satisfaction and an incentive to continue, in the fact that he cannot draw a blank at harvest time.

Having nosed into quite a few centres and outposts of development in Western Canada during the past fifteen years, the writer, from the first experience of them, has enjoyed an unwavering faith in the splendid future that is awaiting these Western Provinces.

With one melancholy exception, he has never found it difficult to carry this feeling of confident expectation into the heart of the casual wayfarer. The exception is, perhaps, nothing more than a sentimental one, the very pardonable failure of an Old Countryman to "understand" so much of the baldness there is in these great tracts of cultivated land within sight of the great steel highways of the country.

In view of the lavish encouragement given by the Dominion Government and other agencies to the planting of

ornamental as well as useful trees and "wind-breaks" around the farm homes, surely the time is *now*, when there should be an end to the "home" around which there isn't so much as a caragana hedge, or one solitary sprig of the ubiquitous maple to break the line of painted wood-work.

Still another postulate comes in here—and that is, if Canada is to really fulfil her destiny, it will, more than anything else, be done by the young folks who are growing up on the farms and city streets to-day.

"How to keep the young folks on the farm" has been a familiar headline in the farm papers of the United States and Canada for many a day. All sorts of baits have been advocated, but best of all is the farm home that is a place fit to live in. The place and circumstances under which a child spends, say, the first ten years of its

life will have a greater hold upon his imagination, and color his outlook on things to a far greater extent, than any other set of circumstances he is ever likely to meet with. It is "home" to him for evermore, and is wrapped in an atmosphere that will never be ousted by anything he will subsequently know of home. Possibly, it was this fact that prompted Kipling's words:

God gave all men all earth to love,
But, since our hearts are small,
Ordained for each one spot should prove
Beloved above all.

Civilization, even at this late hour, squirms with indignation as it contemplates the squalor of the older cities in their slum districts, with thousands of little ones climbing into life amid "home" conditions that can never lead to the healthy manhood and womanhood that is the birthright of every child that is brought into the world.

Not quite so bad, but still in an environment of "bare, unlovely existence" that cannot be conducive to anchoring the interests of the young people to the soil on which they were reared, we find families of naturally robust little sparks of Canada's future men and women, being reared and dragooned, rather than led, to do the chores of the farm that they begin to hate, and all the more detest, as they are brought into contact with better things.

Some of this bareness and comfortless atmosphere cannot well be altered for some time to come, perhaps, in districts which are subject to the drying-out experience, and which cannot be fitted with any practical scheme of irrigation.



A field of irrigated alsike



A field of irrigated cantaloupes

But where the irrigation has been installed, there is everything on the spot to make the most beautiful home-acre on the face of the earth, and very quickly, too, because of the rapid growth of things under that abundance of moisture, with a clear sky overhead, and sunshine all around.

It is not within the scope of this article to go into full detail as to what irrigation has produced, and what is in progress as the result of the millions of dollars invested in the several schemes now in operation, and being extended as settlement warrants it.

The accompanying pictures speak for themselves up to a point, but that point is far short of the full story. The man letting in the water to his potato

crop may seem to the novice to have a rather "mussy" job of puddling for the moment, but a little later, when it is no longer necessary to turn on the tap, he will be in the happy position of basking in the sun on the front porch, with a little statement of his spud harvest showing in black and white that, while the dry-farming people have been collecting 92 bushels to the acre, *he has had 235*. Another year the ratio stands 159 as against 605, and in the year 1918 the figures were 93 and 505 bushels respectively!

Wheat comparisons carried over a test period of eleven years show an average increase of 77 per cent. due to irrigation; oats, an increase of 54 per cent.; barley, of 81 per cent. and

peas, 51 per cent. The average of potatoes for the same period was 105 per cent. increase.

In fact, the full story of irrigation is an astounding narrative. These few figures will suffice to start the reader thinking, and if he is seriously interested and moved to the point of getting there, he need remain in no uncertainty as to any detail of just what it all involves and promises.

The Dominion Government for many years has carried on at Lethbridge an experimental farm under the supervision of one of the most capable and painstaking men in its service, the main purpose of which has been the securing of reliable data obtained from both irrigated and non-irrigated areas.

Of course there are results obtained at experimental farms that are not attainable by many busy farmers, but all the same these results are in response to nothing more than what any farmer might adopt if he would, and they cannot be assailed.

No capital has ever been invested in Canada that will in time bring greater return in material as well as in moral results than the millions that have been spent during the past ten or fifteen years in supplementing the scanty rainfall of the dry regions of Alberta Province.

The Canadian Pacific Railway Company has sunk approximately fifteen million dollars in irrigating Southern Alberta, and theirs is the largest individual project of the kind on the American continent.

Its irrigable area takes in over 600,000 acres, and its canals and ditches represent a mileage greater than Canada's largest river, the Mackenzie, or its own railway system.

Continued on page 56



A typical scene in the irrigated districts



THERE have been parliamentary gatherings in which the agenda was much more extensive, but none in which the problems were more outstanding or complex than in the session which is now in its heyday. The tariff question and its proper treatment in the light of domestic conditions within and probable hostility outside the country, the ponderous perplexity of the national railway situation, the ever present problem of making ends meet in the financial administration, and some aspects of imperial relationship and the concurrent obligations they involve—these are the outstanding things to which Parliament is now devoting an assiduous attention. Around and about its deliberation is the always electric influence of a

By Charles Bishop

political situation, dominated by party considerations, with those who are in, hoping to stay in, and both elements of opposition supposedly aspiring to cross the floor, though it is not very apparent to an impartial observer why the present responsibilities and problems and power of government should be, for any party, a source of particular envy. The stream of discussion of public policies maintains its flow, sometimes deliberately, but, quite frequently, with turbulent currents on the surface. There are so many factors in an uncertain situation, so many things that need clarifying, and such a predominance of contin-

gencies—the by-elections, for example—that this year may very well see that dissolution of Parliament which, in any event, cannot come later than next year, immediately after redistribution. It has no place in the calendar of the present administration, but the political atmosphere is considerably surcharged with the force of impending events; and whenever the appeal to the people, whether this fall or winter or early next spring, it will not come as a surprise or be premature for lack of parliamentary and other preparation. There are also indications that the issue in a general election will be more clearly established than is possible in any of the by-elections meanwhile. It will be the tariff and whether, as the Government maintains, the fiscal policy



One of the business streets of Prince Rupert, B.C., the terminus of the Grand Trunk Pacific

British & Colonial Press Photograph



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A scene in the woods of the Rainy River District of Ontario, showing "alligator" in operation

should follow, rigidly, the protective principle or be subject to the varying degree of alteration which is called for in the official platform of the two parties in opposition.

The Conference of Imperial Premiers, which is to be held in London in June, will be of an extraordinary importance to Canada as bearing broadly upon the many questions of policy of mutual concern. Very wisely, the proposed constitutional reformation of the Empire has been postponed till next year, or later, because there has not been a sufficient opportunity to consider the character and scope of the far-reaching changes which, tentatively, are in view. To what extent, if any, Canada is to participate in Imperial Government, whether by representation in the British Parliament or in an Imperial Cabinet constituted much like the War Cabinet of war time, is a subject upon which counsels are so divided as to call for much profound consideration. But even the more limited agenda of the coming conclave attracts a great degree of parliamentary interest, and is to be the subject of very full discussion. The Canadian delegation that will go to London in June will go with a proper definition of their powers, and with a clear indication of the view of Parliament on the subjects which are to be discussed. Though the conference is to be only consultative and not of any

legislative effect, it is expected to lay the base of a number of policies which affect Canada as an autonomous partner of the Empire. The naval question is one thing to come up. All these years we have gone ahead without any definite policy being adopted. We have the nucleus of a

Canadian navy and, to the extent that any program has been developed at all, it contemplates its perpetuation on extended lines, but it lacks the force of any conclusive adoption. Meanwhile, the Mother Country, determined on the permanence of her naval supremacy, finds the burden of maintenance unduly oppressive and calls upon the Dominions to assume their proportionate share. While there is a large and probably a preponderant opinion in favor of assuming such an obligation, as a matter of self respect if for no other reason, the fact cannot be disguised that elements in Parliament and the country alike are opposed to doing any more than is now being done, or even as much as that, on the ground that the British Navy is not challenged, that the great naval enemy has been despatched, and that the financial conditions of the country do not permit of any extensive outlays on naval defence. It is eight years since Parliament has pronounced upon a naval question, and the coming discussion, especially in the light of the conditions mentioned, should be exceptionally luminous. Another question to come before the conference is the renewal of the Anglo-Japanese alliance, regarded by a great volume of British opinion as vital to the peace of the world. On general principles, Canada approves of such an agreement, but if it should be held to entail racial equality, and to open the door for an influx of



British & Colonial Press Photograph

A mine head, Copper Cliff, Ontario



The Royal Bank of Canada, Yonge and Bloor Streets Branch, Toronto

Oriental immigration to this country, there will be vigorous objection, from the Pacific coast province especially, and from labor in general. The *modus vivendi* in regard to Japanese immigration and the restrictions it applies are working very satisfactorily, but there is no opinion at Ottawa favorable to any greater elasticity than now prevails.

The railway situation is always with us, but this year in a form which, as noted before, is exceptionally acute. Our venture in public ownership has not been a success, from whatever standpoint it may be viewed. If there were deficits before under private ownership that called repeatedly for assistance from the public treasury, they have been magnified enormously under the present system. The shortage, according to the base of calculation, is figured out all the way from a minimum of seventy millions to a maximum of one hundred and forty millions. Even the smaller amount is bad enough. And this great obligation, which calls not for bonds or securities but for the hard cash, becomes peculiarly onerous in view of the general financial condition of the country, with the revenues showing a declining tendency and with the demands of the public service

abnormally great. The House is giving its best attention to the problem by an inquisitorial process and by eliciting the best counsel inside and out. Reorganized direction, the co-ordination of the Grand Trunk and its greater dominance in the system, elimination of duplicate services, and economies over a wide field, are to be tried out in the hope of bettering if not solving the situation. It is admittedly bad but not hopeless. Probably the greatest factor in its ultimate solution will be the plan advocated by one parliamentary leader and significantly endorsed by the President of our greatest corporation, namely, the encouragement of the productive type of immigration, their colonization of the rich countries along the presently unprofitable lines and the utilizing of their activities in agricultural and mineral production, bringing riches to the surface and permitting the railways to share, generously, in the prosperity from their labor.

At a time when the public debt is very great, the need of the development of the vast national resources acquire a particular force. It is suggested that, in its liquidation, these resources may prove a most potential factor. Particular attention is riveted this spring upon the great oil-

bearing regions of the North. The rush to that far-off but seemingly prolific territory in the Mackenzie Basin is a parallel to the Yukon boom in the memorable 'nineties. With the world's visible supply of oil fast diminishing and prospecting in progress in the most remote countries, the Canadian discoveries will be of the utmost value to the Dominion and the world at large. The regulations which have been adopted by the Government, based largely on the experience of other oil-bearing countries, do not satisfy everybody and have been changed somewhat and are likely to be changed more, but they are predicated on the principle of partnership between the locator and the Government, each sharing in any profits resulting from the discovery. There are also regulations which are designed to save the gullible public from the operation of the wild-cat promoter. As a result of the anticipated development this year, a new governmental administration, ultimately, may be set up in this territory similar to the Yukon, or, conceivably, it may be linked with a projected new province that might be formed out of Northern British Columbia and the Yukon.

Another prospective development of resources is in coal, and a parliamentary committee this session is looking into a situation which is potentially grave. We know already what are heatless days in winter, and also of limitation and restrictions upon the use of coal in industry and the home. And those who have gone into the subject see the possibility of the same conditions returning unless steps be taken to bring to the surface some of the deposits, actually aggregating billions of tons, which are scattered in the east and the west but not in the central provinces. Out of a total consumption last year of over 32 million tons of coal, 18 million tons, or more than half, were imported and the rest produced at home. The Canadian monetary outlay in the States for coal is enormous and, with home purchases, is calculated as greater than any taxation applied by the Federal Government. The difficulty is not over locating the coal but rather over capital for development, and especially economic transportation at rates which compare with the American product. The inquiry now in progress and the agreement as to the serious situation in prospect, will, it is believed, be a much needed stimulus in utilizing the resources at home and avoiding, to a great degree, the present dependence of Ontario and Quebec

upon the States for their fuel requirements.

A continuous agitation surrounds the cattle embargo question, and parliamentary opinion is divided as to whether the action of the British Government is a proper thing or not. In so far as the embargo casts a stigma upon Canadian livestock by representing them as diseased, it is clearly unwarranted and involves an untruthful aspersion. If it is not removed it is felt that, at least, the reason assigned for it ought to be withdrawn. On the other hand, the moderate view of the vexed situation is that the continuance or abolition of the embargo is peculiarly a domestic question in British politics, with regard to which Canada has no real right either to interfere or attempt dictation. The case of the Federal Government rests mainly upon the undertaking, given at a war-time imperial conference, that, after the war, the restrictions would be taken off and the free and untrammelled import of Canadian live cattle permitted. At the same time, the view entertained by some of

the most competent men in the industry is that future development is much more promising in the shipment of the chilled beef slaughtered in Canada, than in the export of the live animals, with the decline in conditions inevitably consequent upon an ocean voyage.

The soldier problem is one of the annuals of each session of Parliament, and while this year it is not quite so pressing, it is again to the front and occupying the attention of a special committee. The attitude of Parliament to the returned men is most sympathetic, and any sane proposition looking to the betterment of re-establishment conditions, the care of the wounded, or the relief of dependants of the war dead, is always treated with a generosity greater, in fact, than that displayed by any other allied country.

The French treaty, operative this spring, is a preferential arrangement between Canada and France which is expected to result, to a greater extent than before, in the development of

trade between the two countries. The tariff treatment extended on a fairly wide list of commodities, the principal products of both parties, is of a reciprocal character, and, with the sentimental alliance from the war effort and the improvement in the steamship services, greater trade volumes and closer intercourse, generally, should result from the new convention.

This summer will see the departure of His Excellency the Duke of Devonshire, who goes home after five successful years of executive administration for the Crown in Canada. No preceding Governor-General has been more popular and few have brought themselves into such intimate touch, not only with all parts of the country but with all classes and all spheres of national activity. In the seat of the Government, the Duke's departure is especially regretted, and at the proper time Parliament will convey its fitting expression of appreciation of the eminent services he has rendered both to the Crown and the Dominion in vice-regal and personal capacities.



A view of Dominion Square, Montreal, showing Sun Life Building and St. James Cathedral



ON LAKE AND STREAM IN CANADA



The Black Bass—And How to Catch Him

THERE are those who are prone to state that the large-mouthed black bass (*Myxopetris salmoides*) is the gamiest fish that ever swam wet water; that, taken out of cold waters it is without an equal; that it will fight to the finish and is only safe from escape when it is netted at the edge of the boat and is tucked away in a sack or amongst ferns as the case may be. Principal of those who have paid high respects to the gaminess of this particular fish is Dr. Henshall. No man has given the fish in question a more penetrating analysis than this writer, and it is to him that we owe that famous passage, tribute to this surging fighter of the waters, that "Inch for inch and pound for pound, it is the gamiest fish that swims." You may debate this and argue against it at length. You may

By Robert Page Lincoln

positively state that there are any number of other fish species in America that will beat the large-mouth to a "frazzle," but if you capture him under conditions, and in an environment where he can show himself up at its best, he will quiet your every murmur of protest. This can, of course, be said to be true of any fish. Give him the right sort of habitat and he will not fail you. All too often the large-mouth bass is found in well-nigh stagnant waters, warmed out and utterly unattractive. Under these conditions, he will be sluggish, without that well-identified pugnaciousness and vim that have given him his reputation. But meet

up with that same fish in cold waters and he will thrill you through and through and make many a day in your life a red letter one.

Off and on, I have fished for the large-mouth bass all of my life. I positively love the old fellow. I do not want to go out and try to bring in a limit catch. Give me my three or four good specimens and I will count that day an entire success. Time was when we went out for this fish armed with a long cane pole, a heavy green linen line, a bass hook, with a live green frog as the lure. We would wade up to our waistline and cast the frog out into the deep. Then we would work the frog along, probably allowing it to sink to the bottom to kick around; in any event a bass would eventually seize upon it and we would yank him high and dry very



A view of Emerald Lake, near Field, British Columbia

British & Colonial Press Photograph



Hightop Jimmy

nearly into the next county. Such methods no doubt are still in force, but modern sportsmanlike methods have almost completely pushed these crude methods into oblivion. Later on, the casting rod came into the limelight. The first ones on the market were eight and nine feet in length and one could cast with them only with moderate success. They did not seem to have the right "hang" about them. Popular opinion enforced the popular will and the next rods on the market were short affairs, some of them hardly more than three and one-half feet in length. Where the long rods had been too limber these short rods were in the other extreme, being too stiff. Popular opinion again got busy and finally the correct length was struck—that being five and one-half feet; and that is the recommended, standard regulation length of the bait casting rod of to-day.

And lures for bass! Came a day when the market was simply overcrowded with them: artificial minnows of every shape and hue, with barber-pole stripes and mottled effects; some imitating frogs, and some mice; some of them being a half-tone reproduction of a perch or some other minnow and some of them imitating nothing known under the sun. And, too, they were literally

covered with murderous gangs of hooks. When a bass did strike one of these he was so securely imprisoned that he could not move; he was simply propelled to the boat like an unprotesting piece of driftwood. They were the most hideous and unsportsmanlike weapons ever used in fish capture. Popular opinion again got busy. The result was that fewer hooks were used. The minnow manufacturing firms that had sprung up like mushrooms disappeared. To-day, the worthy lures remain; the others have all been forgotten. Where in the years past it was deemed entirely appropriate, indeed highly to be recommended, to have a tackle-box along with one the size of a trunk with upwards of forty minnows in it, to-day one can wrap a couple or three lures up and carry them in his pocket!

What makes for an ideal bass fishing outfit? The crude and clumsy tactics of fishing in the past demanded a heavy outfit. Now the outfit is one of light weight, for, as one soon finds out, it is a hundred times more thrilling to catch a fish using light tackle than to catch a hundred using tackle that is assuredly out-of-place; tackle in fact that men have caught immense tuna and tarpon on. The sport of it abides in giving the fish a natural chance of getting away. If this is not done the thrill is lost. Indeed, a man who goes out with light tackle and is content with a few fish caught follow-

ing sportsmanlike tactics holds first place on the piscatorial roll of honor to-day. Light tackle methods are here to stay.

For a "just-right" rod for bait casting, there is hardly another material equal to the split-bamboo. It is not only light in weight but it has the springy action, the highly to be desired resiliency. To cast with a stiff rod has no thrill to it; to play a fish on the same affair is even less appealing to one. Both for casting and for playing the fish when it is captured the split-bamboo leads. Of course, not everything that comes under the name of split-bamboo is worthy of attention. There are cheap rods turned out by the hundreds called "machine-made" rods. They possess little or no merit; they cost but a few dollars. But a hand-made bamboo rod, a rod in which the strips have been fitted into place *by hand* and not machine, is a tool that will last a great number of years and is well worth the fifteen or twenty dollars you pay for it. Some come even higher in price than that, but the figures above mentioned bring you a rod that will satisfy the most exacting. The initial cost in purchasing a good bait casting outfit may be a trifle high, but in the long run you will be the gainer. It is hard to tell the average man, that so he places his faith in cheaper tackle, and when one rod after another has passed through his



Photograph by S. J. Hayward, Montreal

A typical Eastern Canadian Stream



Photograph by S. J. Hayward, Montreal
Starting on a hunting trip in Northern Quebec

hands and one reel after another has been discarded for something more durable and higher in price, he, in a roundabout way, comes finally to the realization we all do, that it is best to invest in good material in the beginning.

So it is with reels. There is hardly one of us who didn't start in with a cheap nickel-plated affair that made a noise when it was cast from like a threshing machine. They generally cost but a dollar or two. That looks attractive; the soon-to-be-fisher figures that he is saving money. If he had invested a ten-dollar bill in a good reel he would have been money ahead and would have saved himself much discouragement. *Cheap tackle does more to blunt one's interest in angling than anything possibly could.* I have one reel I paid ten dollars for ten years ago. I still have it; and I use it in preference to any of the others.

The regulation bait casting reel is what is known as a quadruple-multiplier; that is to say, the spool revolves four times to one turn of the handle. It should be wide between the two end plates, for if it is narrow between them the line gets clogged and tangled and is hard to solve when one does have a back-lash. A hundred-yard reel is none too large for the work to be done. The material that goes into it should be silver, although some excellent reels come in silver and hard rubber combined.

There are reels with back-lash safeguards both internal and external; there are free-spools; and reels that have a thumbing device; and one that guides the line back and forth on the spool-like a sewing machine attach-

ment. They have one object in view: that of doing the work for you, and the bulk of them are failures and come high in price. At least a third of the joy in fishing and especially in casting lies in promoting your skill *sans* any device to help you out. You would not want a self-aiming gun. Why should you desire a self-regulating reel. Far better therefore to avoid mistakes and buy a plain, everyday reel without mechanical attachments of any sort. Learn to thumb the reel "on your own hook" and you will be far and away ahead. You will encounter a few "snags" in the beginning, but a little practice will

make almost any enthusiast perfect, or, if not perfect, at least very nearly so, and that is all that is demanded of you.

To be able to cast from the free reel to the best effect one must possess himself of a line that is worthy of the craft. Not any cheap linen line that is offered you will do. A light line is demanded; a heavy line will so impair your casting that no noteworthy results will be had. Generally speaking, there are two sorts of lines used in bait casting, namely: the soft braided silk line and the hard braided one. On all counts the soft braided line is recommended in that it packs well on the spool, forms a smooth core, and is strong enough for any average fish that you are after. The hard braided line makes a clumsier core and does not cast so well, though it must be admitted that it lasts longer for it is more solidly braided and does not have a tendency to fray. But for average work the soft braided line is recommended. For casting for bass the twelve-pound test line is to be desired. Indeed, with care, you can catch and play any fish up to twelve pounds on it. A line of this sort comes in two spools connected by the same continuous line. Clip off and use the contents on one spool following this system: Build up a core on the reel barrel out of cheap linen line, or a worn-out bait casting line. Then tie to it the good line and reel on that core *the one spool of line*. The good point scored in this is that your



Photograph by W. H. Robinson, Official Photographer, Canadian National Railways
A pastoral scene in the Quetico Forest Reserve, near Port Arthur, Ont.

line is brought up higher, and with a large spool back of it casting is greatly facilitated. One rarely casts out all the line on one spool so that you never get down to the cheap line.

A line will last but a short time if it is not cared for. When in from a trip on the lake it should be stripped from the reel and stretched out, in the shade, from tree to tree. The longer it dries the better of course, though fifteen minutes of drying in this manner if there is a breeze will be sufficient.

As previously stated, it is not necessary to clutter up your tackle box with sundry and innumerable lures of every type to be had on the market. Two or three artificial minnows will be all that you need, but the selection of them is rather of a problem. To the man unversed in this line some advice gained only through years of experience will suffice to be a *true* help. You will need: (1) an underwater minnow for use in fishing deep; and (2) a non-weedless wobbler minnow for use up near the pads, in comparatively open water; and (3) a surface minnow that is practically weedless, that can be cast right into the weeds and pads up near shore and not get hooked up. An underwater minnow is plugged with lead and by reason of this weight it sinks. They are to be had in many colors, red, white and green being the best; although those of mottled effects in these colors are exceptionally good. They generally have one spinner in front and one in back. You can readily make a selection from the lot, always being sure to buy the product of a well-known manufacturer. For the wobbler minnow, there are many to be had. There is one with a hollow scooped out in front that I believe to be the best to be had for the money. In this hollow, there is an eye to which the line is connected. When reeled through the water it has an undulating dip and dive and side-wise motion that so excites the fancy of the fish that it cannot resist the impulse to rise to it and strike. A white wobbler with a red head to it is the best, although a green one is almost always "killing."

But to obtain an artificial minnow that is practically weedless, that can be used up in the midst of the pads and weeds, near to shore, that is another matter. For years, I have used one that is shaped like a mouse; it is like a top in shape, a curled-up blade of tin in front. When reeled, it wobbles and wiggles this way and that. But best of all are the hooks which are doubles and, instead of

pointing downward (in which case they would catch it in the weeds), they bend upwards. The result is that weeds are rarely met with. With this mouse-colored lure it is my method to drop it close up to and, sometimes, right on shore. I then reel it into the water, and the appearance of a mouse swimming out from shore is carried out to an almost startling degree. There is another one cut in this same shape but which is green, streaked with brownish that presumes to imitate a frog. This one is also good.

As a rule, very little casting is done with spinners and spoons used in connection with a fly or a bucktail creation with trailing hairs. And yet these forms are often useful and productive of captures when all other forms fail. Provided with a smooth-running reel they are easy to cast,

even though they are light; but if it is desired to weight them to improve one's casting ability, a lead sinker can be attached ahead of the spinner. The bulk of the light lures for casting with a bait rod from a quadruple multiplying reel are now made with a weighted attachment so that no bother is had in getting the best results. A spoon or spinner of any sort is always attractive to the preying fishes. The black bass is an exception to the rule. No doubt, as it whirls along in the water, they take it to be a glittering shiner minnow. In the same respect, it may be said of the dipping and diving wobbler minnow, it no doubt arouses a belief in the fish that it is some disabled small fish trying to make its way along as best it may. There are spoons coming in many varieties of

Continued on page 54



Photograph by W. L. Langlois
One of the myriad streams of the Selkirk Mountains in British Columbia

Canada Through the Camera



The Canadian Ayrshire Breeders hold a successful convention in Montreal

British & Colonial Press Photograph



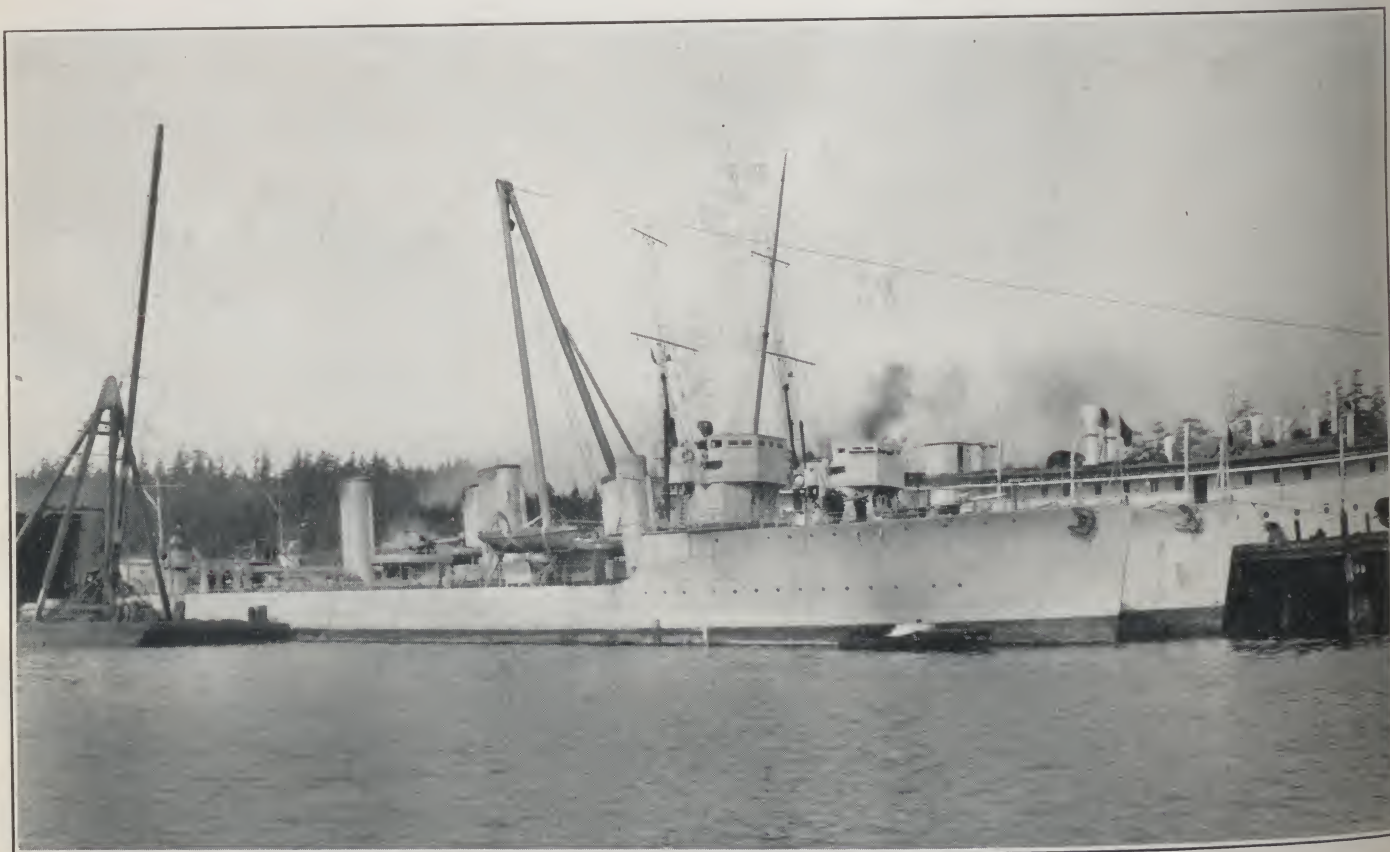
The University of British Columbia is experiencing a rapid growth. Here are some of its students

British & Colonial Press Photograph



British & Colonial Press Photograph

Their Excellencies are officially welcomed to Winnipeg on their farewell tour of the Dominion. From left to right are : Chief Justice Perdue, Premier Norris, Lord Charles Cavendish, Lady Anne Cavendish, the Duchess of Devonshire, the Duke of Devonshire, Lieut.-Gov. Sir James Aiken, and Major General Ketchen



The Destroyers "Patriot" and "Patrician" were recently thoroughly overhauled at the plant of Messrs. Yarrows Limited, Esquimalt, near Victoria, B.C.



The University of Toronto hockey team which captured the coveted Allen Cup from the Brandon team in a hard-fought series at Winnipeg

British & Colonial Press Photograph



The Ontario Hockey Association's annual meeting, held recently in Toronto, was an unqualified success, delegates being present from all parts of the Province

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Ships and Shipping

DISCUSSING "Reminiscences of a Liverpool Shipowner," by Sir William B. Forwood, the noted Liverpool shipping magnate, a book which sketches entertainingly the development of shipping from the day of the clipper, the *Nautical Gazette*, New York, speaks as follows:

"Liverpool, the most typically English port, forms the background of Sir William B. Forwood's fascinating sketch of the rise and progress of the Atlantic shipping industry. He gives a brief account of the wonderful development of this famous port, the only deep water haven on the west coast of England, which naturally became the shipping point for the manufactured goods of Lancashire and Yorkshire as soon as Britain's export trade began to grow. In 1759, Liverpool could boast of only 200 ships, and its wharves were few. To-day 6½ miles of docks are required on the

city's side of the Mersey and 9½ miles at Birkenhead to accommodate over fourteen millions of tonnage which annually enter and clear from the port, while the city's population, in less than two hundred years, has increased from 6,000 to over 600,000.

"When the author of this interesting book entered the shipping business, as a youth, in 1850, the sailing vessel was in all its glory. Those were the halcyon days of the British ship, while the occupation of the shipowner was leisurely with much that was picturesque. As Sir William points out, however, the risks of that period were far greater than those of to-day. The wooden ship was liable to decay, and A-1 rating soon ran out, necessitating costly repairs. Cables being non-existent, the captain's instructions at the beginning of a voyage had to be most comprehensive, covering every contingency. Cargoes at loading ports

were uncertain and owners were in constant dread lest their ships should find no homeward cargo. 'The sailing ship,' adds the author, 'was profitable to those who possessed high-class ships, but I cannot recall many fortunes made out of soft wood ships, the cost of their repair and maintenance being heavy.'

"In a brief résumé of the golden age of the sailing vessel, Sir William tells of the improvements in construction and increase in speed that followed the war between the United States and Great Britain, which ended in 1814. America at that time had made wonderful strides as a maritime power, and it was the general opinion that the American was superior to the British ship. The American trade gave the first great impetus to ship owning in Liverpool. Those were the days of the famous Black Ball Line, established in 1816, its first vessels of 300 to



The S.S. "Buenos Aires," which recently arrived in England with a full cargo of wheat from Vancouver, thus demonstrating the practicability of the Panama route for our Western grain

British & Colonial Press Photograph

500 tons having made record passages of 23 days outwards and 43 homewards. For many years they were the only means of communication between England and the United States. Then followed the Dramatic Line with the 'Sheridan,' a vessel of 895 tons, and later on 'The New World,' a packet of 1,400 tons, which was the wonder of the Atlantic. 'I remember,' says the author, 'being taken, as a child, down to the dock to see this ship, the largest sailing vessel in the world.' These ships made wonderful speed for those days.

"Three outstanding events which greatly contributed to the improvement of British shipping, were the establishment, in 1834, of Lloyd's Register, the founding, in 1846, of the Marine Department of the British Board of Trade, and, in 1849, the repeal of the obsolete navigation laws, designed originally to protect British shipping and secure for it a certain monopoly of the carrying trade. It was not until it was found that the commerce of the world was being carried by American ships, which were faster and better built than the British, that an agitation was started in England to abolish these laws. Contrary to what many advocates of the protective system had predicted, the repeal of the laws gave a new impetus

to British enterprise, and before many years had passed, England had regained her position in the shipping world.

"Sir William B. Forwood gives an interesting account of the development of the clipper ship, the credit for introducing which belongs to America. The era of the clipper, which was specially designed to make rapid passages, dated from 1848, when gold was discovered in California and emigration began to pour across the Atlantic. Some of the renowned American clippers created as much interest in those days as the swift Atlantic steamers have done in recent times. The 'Red Jacket' (2,006 tons) made the passage from New York in 1854 in 13 days, and on one day logged 415 miles.

"British builders also turned out some remarkable clippers for the Australian and Chinese trades, beautiful vessels of 800 to 1,000 tons of quite an original type. Unlike the American ships, they depended for their speed more upon the symmetry of their lines than their large sail area. The greatest development in sailing ships was brought about by the substitution of iron for wood in their construction, as the iron ship could not only be of larger size, but was more durable. In 1863, the first ship was equipped with steel lower masts, topmasts and top-

sail yards and standing rigging of steel wire were introduced and about the same time double topsail yards were adopted.

"Sir William B. Forwood closes his account of the sailing ship era with a reference to the discomforts of the old sailing days, and mentions the hard life endured by seafaring men in the old-time, evil-smelling fore-castle, their bad food and scanty pay, while crimps and other land sharks assailed them on shore in the absence of the laws that now exist to protect the sailor.

"The rise and development of the steamship forms a large part of this interesting story of the Atlantic, which begins with the 'Savannah,' a vessel 130 feet in length and 26 broad, fitted with paddle wheels, which were taken off when the wind was fair. She took over a month to cross from Savannah to Liverpool. It was not until 1838 that the Atlantic passage was materially cut down, when the 'Royal William' of 720 tons, built in Liverpool, the first British passenger steamer, made several record trips. Later on the 'Liverpool' of 1,150 tons and 464 horse-power averaged 17 days out and 15 home. The first iron steamer, the 'Great Britain,' launched at Bristol in 1843, registering 3,270 tons, was for many years the largest British ship. She carried six masts.



Shipping three-ton ingots at the plant of the Nova Scotia Steel & Coal Company, New Glasgow, N.S.

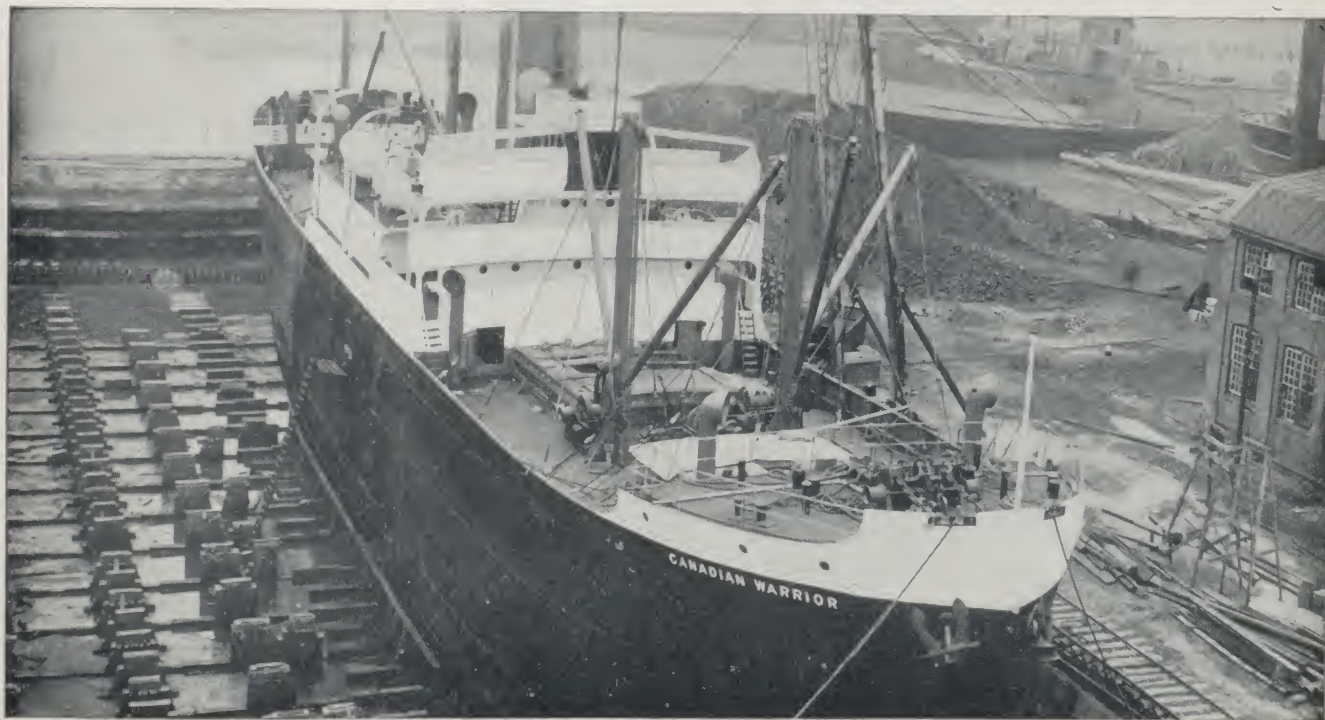
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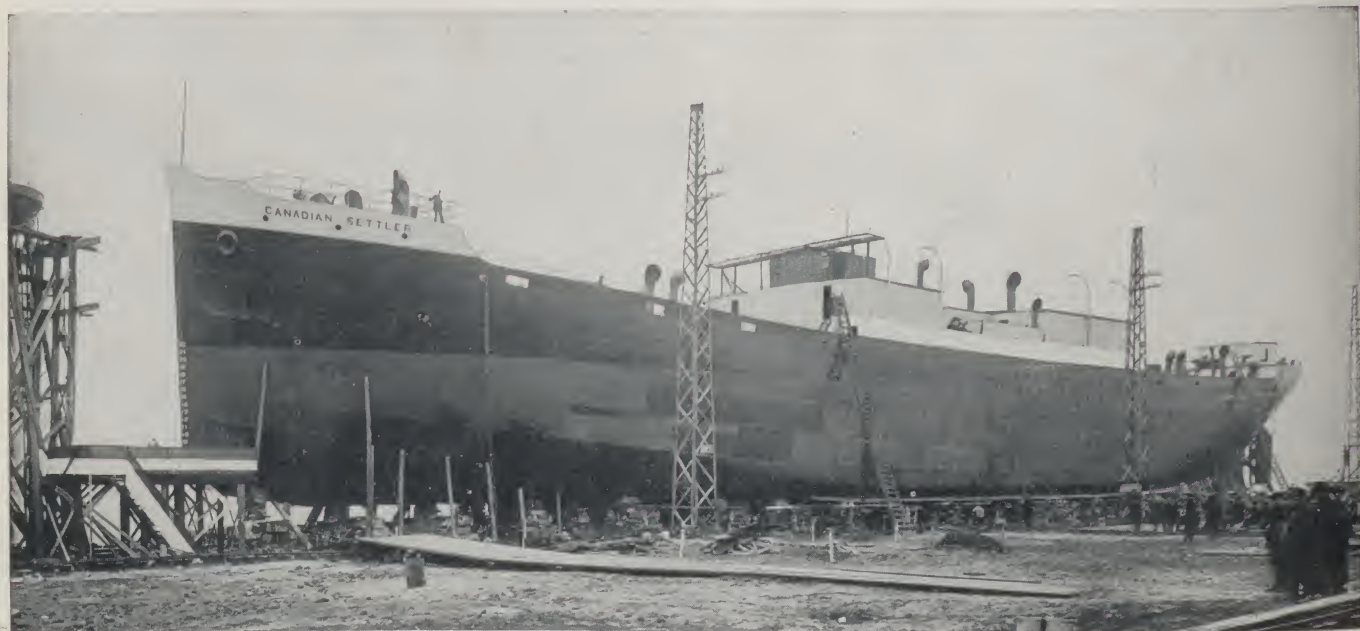
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"Thereafter steady progress was made in steamship construction. In 1840, Samuel Cunard and his partners started the Cunard Line with the 'Britannia,' 'Acadia,' 'Columbia,' and 'Caledonia.' In 1850, the Inman Line was founded, the Guion Line in 1866, and the White Star Line in 1870. The evolution from sail to steam involved changes in the placing of the hull of a ship. At first it was considered simply necessary to fit a hull for a sailing vessel with a steam engine. It was soon discovered, however, that the fine lines and deep keel required to carry sail were not required in a steamship, and in course of time full bodied hulls with square bilges without keels were adopted. Sir William gives some interesting details concerning the improvements made in construction in the early steamship period, which reached their climax in the 'Great Eastern' of 18,915 tons, built in 1855, having only 12 knots speed, which proved an utter failure, although if she had been given sufficient power she would probably have hastened the era of large and fast vessels.

"In less than thirty years later, steamship development had made re-

markable strides, the first Atlantic greyhounds, 'Alaska,' 'Arizona' and 'Oregon' of the Guion Line, having cut down the Liverpool-New York passage to nearly seven days. Then followed the 'Umbria' and 'Etruria' in 1885 with a speed of $19\frac{1}{2}$ knots, with records of six days and a few hours. The 'Oceanic' (1889) having a tonnage of 16,900 was the pioneer of the great Atlantic liners which attained their greatest size in the 'Imperator' and 'Aquitania' of 50,000 tons.

"In connection with his story of the progress of the steamship, Sir William B. Forwood presents some interesting facts concerning the development of the marine engine, including the change from the paddle wheel to the screw, of which he witnessed during his long career in the shipping business. He also gives an account of the introduction of the turbine and the more recent substitution of fuel oil for coal.

"In some entertaining biographical chat, the author tells of the pioneers in the Atlantic steamship industry, such as William Inman, Samuel Cunard, Thomas H. Ismay, Sir Edward Harland, Charles MacIver and Sir Alfred Jones, who transformed the small,

old-fashioned steamer, with its primitive accommodations for passengers and cargo, into the magnificent liners of the present day with accommodations rivaling those of the best hotels. In comparing the luxuries enjoyed by modern steerage passengers with the discomforts of the past, Sir William tells of conditions in the early days when quarters were cramped and badly ventilated, while food was carried round in iron buckets and served in the crudest manner.

"In his closing chapters the author deals with the changes in the ocean carrying trade that have resulted from the recent war. His discussion of this subject is of particular value to shipping men as his views are based upon long experience and sound judgment. Sir William is especially severe in his criticism of the heavy taxation on shipping imposed by the British Government, which has tended to cripple the British industry. How will it be built up again? 'In this country,' says Sir William, 'we have a profound distrust of subventions, such as will probably be adopted in America, France and Germany, as they are invariably associated with government control, which has always been destructive of enterprise.'

"As to American competition, Sir William remarks, in conclusion, 'We are apt to make light of the increase in American shipping since the war, and think that the competition of the United States will not last or be serious. We should, however, not forget how large a proportion of the world's carrying trade was done by America prior to her civil war and the excellence of her ships. The tariffs she imposed after that war killed her shipping and made shipbuilding, except for her coastwise trade, impossible. The result of the late war has been to make the cost of shipbuilding nearly as great in this country as in America, and she will certainly make a serious bid for her share of the trade.'

□ □ □

Pending the completion of the changes necessary to make a free port possible at Trieste, the Italian Government has entered into an agree-



Dominion Coal Co.'s pier Sydney, N.S.



Photograph, copyright, Underwood & Underwood, N.Y.
Delivering sugar cane by mule wagon at a big Cuban mill. The sugar is hauled to the mill by train, ox-cart and mule

ment with the Czecho-Slovak authorities for the reservation of certain warehouses at Trieste for Czecho-Slovak traders exclusively. This agreement is to run for a period of two years.

□ □ □

A very interesting alteration has recently been successfully carried out on a cargo vessel at the Barcelona shipyard of the Astilleros del Mediterraneo, now under the management of John L. Thornycroft & Co., Limited, states *Shipbuilding and Shipping Record*. Before Thornycroft's took over the management, the S.S. "Olesa" of 1,000 tons deadweight had been completed, but had failed to obtain the designed speed. As the fault was ascribed to the propeller, the diameter of the same was increased

from 5 ft. 7 in. to 9 ft. 8 in., the pitch from 7 ft. 2 $\frac{3}{4}$ in. to 7 ft. 10 $\frac{1}{2}$ in., and the surface from 16.7 to 29.3 sq. ft. To effect this it was necessary to cut away the original sternpost and scarph a new piece in position, a very difficult operation, as the finished job, after riveting up, had to be machine fitted and exactly adjusted to the gauge of the old sternpost, so as to allow the lower rudder pintle working freely.

The vessel was dry-docked and the whole operation completed within a fortnight to the entire satisfaction of the owners and of the Bureau Veritas surveyor. The improvement effected by the change was quite remarkable, the speed being increased from 5.2 knots to 8.6 knots, and at the same time the vibration, which had been exceedingly bad with the small propeller, entirely disappeared. As a

result of the change, the length of the voyage from Barcelona to Bilbao was reduced from 11 to 6.7 days while the saving in coal for the round voyage was 40.2 tons, the equivalent cash saving being 8,040 pesetas.

The above results are interesting as showing what an important influence the propeller has upon the economical working of a vessel. It is not often the case that in a merchant ship a change of propeller can effect an increase of nearly 3 $\frac{1}{2}$ knots in the speed, although such instances have not been unknown in the case of torpedo-boat destroyers and of high-speed motor boats.

□ □ □

Revised figures show that the Norwegian mercantile fleet at the end of last year numbered 3,826 ships, aggregating 2,425,560 tons gross. Of this tonnage, 2,001,576 tons are accounted for by 1,921 steamers, 201,113 tons by 1,497 auxiliaries, and 222,871 tons by 404 sailing vessels. The figures include all steam and motor vessels from twenty-five tons and sailing vessels from fifty tons upwards.

□ □ □

According to Lloyd's Register, 1,759 vessels of 5,861,666 gross tons were launched in 1920 by the various maritime nations with the exception of Germany. The showing of the various countries is given in the following table:

Country	Gross Tons
United States.....	2,476,253
United Kingdom.....	2,055,624
British Dominions.....	203,644
Belgium.....	8,371
China.....	33,705
Denmark.....	60,669
France.....	93,449
Holland.....	183,149
Italy (including Trieste)..	133,190
Japan.....	456,642
Norway.....	38,855
Spain.....	45,950
Sweden.....	63,823
Other Countries.....	8,432
Total.....	5,861,666

□ □ □

For the first time in its history, the Manchester Ship Canal has attained such a height of financial prosperity as to warrant the payment of the full five per cent. dividend guaranteed to the holders of preferred stock. Shareholders of common stock will also

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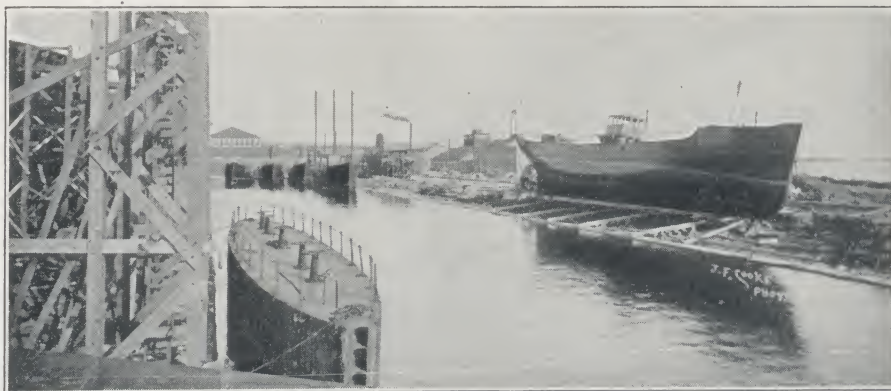
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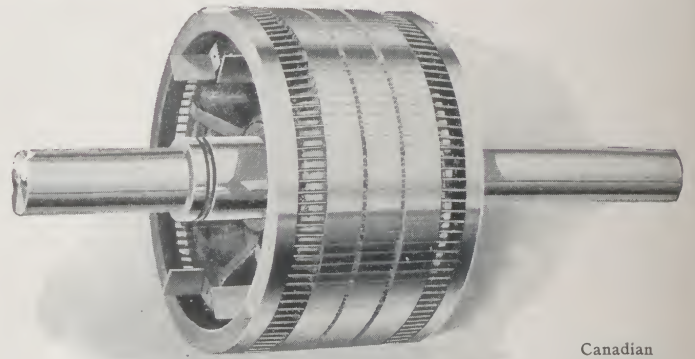
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benefit at the same rate. It has required 27 years to make the canal a profitable enterprise, for it was opened for traffic in January, 1894. It is 35 miles in length and has four sets of locks in its course.

□ □ □

In explanation of the long delay incurred in placing the world's largest ship in commission, which was built by the Germans as the "Bismarck" and has just been sold to the White Star Line by the Reparations Commission, the International Mercantile Marine Company states that since her launching in June, 1914, the giant liner has lain at the docks of her builders, Blohm and Voss, at Hamburg, awaiting completion. In the early months of the war her engines were installed, and work was rushed towards fitting her out for service at the earliest moment following peace, which the Germans expected would come quickly.

As the war dragged on, work stopped on the "Bismarck." Then, as the pinch came for copper and brass for use in their torpedoes and shells, the Germans stripped the great ship of every kind of fixture that would yield either metal. Then she lay idle to the end of the conflict and until

the peace treaty specifically named the great ship as part of the spoils of war which the Germans must hand over to the Allies.

Early last October, the "Bismarck" was considerably damaged by fire. Work is now proceeding steadily on her. The engines are in place, with the boilers, and much of the auxiliary machinery. The work of completing the installation of staterooms, and of fittings in the ship's public rooms, is also well in hand, it being understood that probably one-third of the staterooms already are in place.

When completed, the "Bismarck" will have capacity for about 3,500 passengers and a crew of approximately 1,250, or if fitted to burn oil as fuel, of about 1,000. Her probable passenger capacity will not be far from the following: First class, 990; second class, 544; third class, 934; fourth class, 1,068. She is to be renamed the "Oceanic."

□ □ □

British shipowners having tonnage for sale or under construction, and shipbuilders, have every reason to agree with German shipowners that the Allies should not have forced Germany to hand over all her tonnage

to replace boats sunk during the war, remarks *Fairplay*. If Germany had been allowed to retain her fleet, British shipowners requiring further tonnage would have either purchased second-hand boats in England or would have contracted with British builders. With about 2,000,000 tons gross of ex-German steamers to be sold for whatever they will fetch, prices have been forced down until at the present time those who acquired the first vessels sold have every reason to regret their bargain, and those owners who want to dispose of any boats have to face the competition of the ex-German vessels.

□ □ □

Writing in the *London Times*, Lord Inchcape, Chairman of the P. & O. Steamship Co., states that the thieving that is going on at sea and in the docks is beyond anything in history. A man recently removed the clocks from the smoking and music rooms of one of our steamers while the passengers were embarking at Tilbury Dock, and they have never been traced. Within the last few days a piano was removed from one of the steamers in dock and carried off to a cottage, where, however, it was fortunately



British & Colonial Press Photograph

Another season has come around, and once again navigation on the St. Lawrence is open Here we see a large freighter entering the port of Montreal



recovered. The quartermaster, who was on watch, and found to be in league with the thieves, has gone to jail with the receiver, and they are now picking oakum instead of playing the piano.

Because the Steward's Union compels the shipowners to take on incompetent and unknown men, passengers' belongings and enormous quantities of cabin, saloon and table furnishings are constantly being stolen. On one voyage alone of a P. & O. steamer, plate and linen to the value of £1,043 were removed from the ship.

□ □ □

Great Britain's coal exports in 1920, exclusive of bunkers, coke and patent fuel, were valued at £99,627,146 or £16,500,000 more than those of 1919, and £49,000,000 above the value of coal exports in 1913. The tonnage exported in 1920 was almost one-third less than in 1919 and only about one-third of the total for 1913. Details are contained in the following table:

(000 Omitted)

	1913	1919	1920
Tons.....	73,400	35,249	24,931
Value £.....	20,727	83,213	99,627

Including bunkers, coke and patent fuel, the exports in 1920 were 42,703,255 tons. The corresponding figures for 1919 and 1913 were 50,471,405 tons and 97,712,139 tons respectively. In amount of coke and patent fuel, 1920 exports exceeded those of 1913 and 1919.

□ □ □

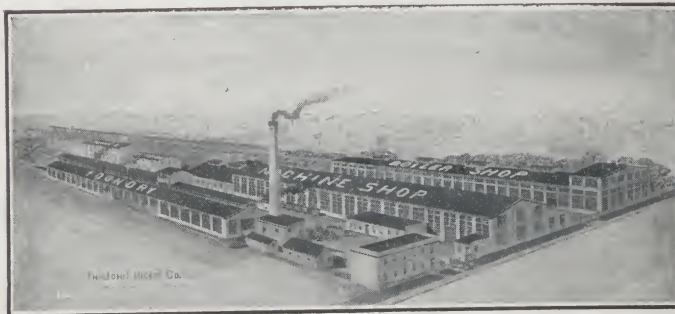
According to figures compiled by the American Petroleum Institute, the estimated production of petroleum in the world during 1920 was 688,674,251 barrels. The 1919 production was placed at 554,505,048 barrels. The increase in 1920 is 24.2 per cent.

Of the total production last year, the United States supplied 443,402,000 barrels, or 64.4034 per cent. Mexico supplied 159,800,000 barrels. The Mexican figures were based on exports of that amount plus the productions marketed at home.

The gain in production in the United States was 65,683,000 barrels, or 17.4 per cent. Mexico increased her production 83.5 per cent.

If you have any friends who you think might be interested in this publication, will you not send us their names, and we will gladly mail them a sample copy.

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Canada's Gateway to the Pacific

Continued from page 11

Orient. The winters are mild, and the summers are not hot. The Japanese current tempers the climate to such an extent that the temperature in the Coast cities rarely declines to the freezing point. This explains why Vancouver is largely built of lumber. The light frame bungalows which line street after street are not built to resist severe weather because there is no necessity of doing so.

More and more, Vancouver and Victoria are becoming the great winter resorts for Canadians from across the Rockies. It is true that the rainfall is heavy on the Coast during the winter season, but there is no snow. Golf is played the year round, and motoring and water excursions are enjoyed throughout the twelve months. In summer, when clothed with the intense verdure, produced by the long growing season, and bathed in the bright Pacific sunshine, Vancouver is a picture of beauty. One does not think of her industrial possibilities or her commercial advancement, but of her loveliness. The magnificent drives, the water trips, the purple-crested mountains, the salt water bathing beaches, and the world-famous Stanley Park, constitute a series of attractions for the tourist that is difficult to excel. Last summer, all the available hotel accommodations in the city were taxed to the utmost, and this season a still greater influx is anticipated.

When all is said, Vancouver will always be one of Canada's most popular show places. She may wax great as an industrial and commercial centre, and become one of the greatest seaports on the whole Pacific littoral, but her chief appeal to the visitor will lie in her scenic charms.



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THE STAYER

Continued from page 18

"I've only got a couple of thousand there, I think," said Peeler, not the least bit put out. "I keep my main account in Santa Fe. This is just a personal account."

The president read the message, pursing his lips, nodded and sent the teller out with it to the telegraph office. Peeler pocketed his check, announced that he would return later, and went out.

The answer came about noon. The Sheriff strolled into the bank when he saw Peeler enter, as he was greatly interested in this transaction.

"Well, here it is," said the president cordially, and read it:

"G. Peeler has three thousand dollars on deposit with us."

"As much as that?" said Peeler. "I thought it was less."

Once more he presented his check, and ran through the money laboriously when it was handed to him, keeping up a conversation the while. Then he climbed into his red machine, which was standing at the curb. Bud lounged on the sidewalk.

The driver appeared to have been drinking. At any rate, he began to protest hotly. What the argument was about, Bud could not hear. The older man quietly folded his money in a wallet and ordered him to drive on. The boy was obstinate, pointing to the wallet. Still Peeler kept his temper, although there was a sudden flash in his eyes when again he advised him to go on. His insistence won. The automobile popped and jerked, and departed in a smother of acrid smoke.

"I reckon he ain't paid him," the Sheriff hazarded, and returned to the courthouse.

For five days, Bud moped between his office and the Alamo. He would not go to see Pauline again until she made the overtures. On that he was determined. Had she not sent him home, like any boy? Perhaps doubts of this course grew in him at times, but once let a man hesitate to confess his error, and the split widens and grows; trifling incidents are magnified; the split becomes a gulf.

Lewis drove into town on the afternoon of the fifth day. He went straight to the Sheriff's office.

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"Where's Peeler?" he inquired.

Bud glanced up in some surprise.

"How should I know? I thought he was at the Spade. Ain't he?"

"I haven't seen him in a week," said the rancher irritably. "Either he's off drunk somewhere, or the deal's fallen through. But you'd think he'd send me word, wouldn't you?"

"Humph," said the Sheriff. "There's no saying what Peeler will do."

At that precise moment the teller of the First State Bank arrived in breathless agitation and begged that the Sheriff would step across instantly. Peeler's check for twelve hundred had been returned from the Roswell bank, with the explanation that a week before the date of its drawing, a man had deposited three thousand dollars in Peeler's name, which had been with them when their telegram of inquiry arrived; but just before closing time that day, he had withdrawn this account; consequently, having received no further word from the Dodge City bankers, they had not suspected anything and had failed to notify them at once of the closing out of this account. All of which they deeply regretted, and would be happy to render what assistance they might.

"He had a pal over there, then," said the Sheriff.

The president was in a glorious rage. Smashing the desk with his fist, he cried: "Why, that game is as old as the hills. And I had to fall for it! What I should have done was to write the message myself. You notice he didn't ask whether his check for twelve hundred was good. He simply asked how his account stood. And I had to fall for it!"

While they were wiring instructions for Peeler's apprehension, a messenger came in from Garza with news that set Dodge City in a blaze. Peeler had sold the red automobile for four hundred dollars at Stamford, and had disappeared. Then they had found the body of the young driver lying beside a water hole four miles south of Garza. He had been beaten over the head with the butt of a six-shooter; his clothes were torn and his hands bloody, as though there had been a desperate struggle.

"I know all about that," said the Sheriff, just as though he had witnessed every detail of the tragedy. "They done had a row over the hire

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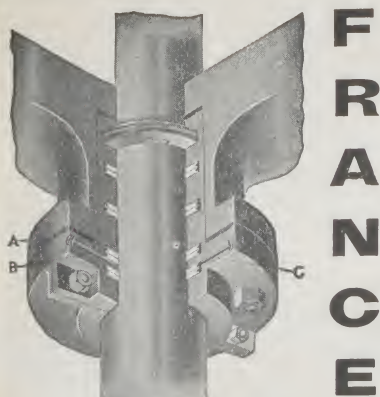
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of the machine. Peeler didn't own it at all. He done hired it in Plainview, and promised the boy a bunch of money. Then he tried to get out of paying him."

Instantly he thought of Pauline. What a blow this would be to her! The news of the killing must already have spread over the country, in the magic way in which news travels in cow-land. Doubtless, she knew about it; but perhaps he could lighten the blow by a carefully worded version. With this in view, he hired a messenger to go to the Griffith farm, and gave him the most minute instructions as to what he was to say and what he was to avoid saying.

That done, he saddled his best horse, filled a cartridge belt, and with a 30-30 in the saddle holster and his .45 on his hip, struck westward. Some information which a cowboy had imparted that afternoon had supplied him with a theory.

"Say, Bud," the range rider had said, "there is a feller hiding out in the Croton Brakes. Do you reckon it's him? We went down there after some outlaw steers, and I seen him about a mile off, but he just fanned the wind as soon as he spotted me. He's got a pack mule with him."

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"He's hiding out there," he told them at Spur, where he stopped to break his journey. "That's why he's got a pack mule. It's like he aims to lay low. Yes, sir; he's figuring they'll sort of ease up about him pretty soon, and then he'll come out."

During a solitary day's ride, he had gone over every incident he knew in the fugitive's career in Dodge City. All pointed to one conclusion: Peeler had planned to marry Pauline. Fail-

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ing, and out of funds, he had plunged desperately for a smaller stake.

Having settled to his own satisfaction that the outlaw was in Croton, Bud prepared to track him. It was characteristic that he did not wait until the towns had first been combed, before nosing on this faint scent. He traversed the J 2 Brakes in the afternoon and entered the neck of Croton on foot. He went alone. Ahead of him shuffled a seasoned burro, bearing food, water slung in canteens, and grain.

"This'll be a long job," he assured himself, pausing to tighten the packs, "but I'll get him."

Meanwhile there was a tremendous to-do at the Griffith home on the knoll; never was such a running to and fro, such hurried bawling of orders, and saddling of horses, and oiling of guns. For, hardly had the Sheriff's messenger begun his carefully rehearsed speech, than a tempest broke loose. The messenger was a day late. Happening to meet with some friends newly arrived in Dodge City to gossip over the murder—and the Sheriff being well out of the way—he had delayed departure.

"He's gone? Gone after Gus Peeler?" Pauline broke in on him. "Oh, go after him quick. Hurry, somebody. Tom, saddle Streak. Run, run. Tell two of the boys to come with me."

The messenger stood at the foot of the steps, regarding these frantic preparations in open stupefaction. Nothing about the Sheriff's journey struck him as fuel for turmoil. It was quite a routine proceeding. He began on his memorized sentences.

"Oh, shut up. I know all that. Why didn't I tell him?" Pauline wailed, wringing her hands. "What did I let him go off like that for? Say, you—what're you staring about? Hurry up with them horses. How many? What a question! I don't care. You can all come. But hurry."

One of the hands, as he staggered under a saddle, ventured to inquire what was amiss.

"There's matter enough," she cried. "He's gone after that man Peeler. Yes, he has. And he isn't Peeler at all. He isn't Peeler at all." She started energetically toward the barns. "Why didn't I let him know? He's a gun-fighter and his name is Jess Harkins. He told me so himself.

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Yes, he did. Oh, oh—why didn't I tell him? Marry him to reform him!" The disgust in her tones was equalled only by her splendid confusion of pronouns. "Why couldn't I see what sort he was from the start? And then I kept quiet. If Bud gets hurt—hi, there—you, Tom and Joe—get a move on."

"Bud can take tol'able care of hisself," the messenger suggested mildly. Miss Griffith glared as though she would have relished felling him with one blow.

Within ten minutes she was atop Streak, and crying for the others to make haste. Behind her rode eight men, every soul on the place who could bestride a horse and knew, in a general way, the butt-end of a gun from its muzzle. It was a long seventy miles to Croton. Therefore, they put up at the Spade that night, and, joined by some of Lewis' outfit, followed in the Sheriff's wake all next day, making Spur at nightfall.

Pauline could not sleep. Before the reluctant dawn grayed the sky, she was astir. Dog-tired though she was, she rode away alone about five o'clock, leaving orders that the others should follow without loss of time.

"I'm all right," she told the Spur cook, who protested against her issuing out unguarded. "I can't wait until all that mob gets ready. They'll just mill around and talk. *Adios.*"

At noon of the same day, the Sheriff lay in a fissure about four miles from the eastern edge of Croton, and peered cautiously through a crack in an endeavor to get a bead on his quarry. The chase was thirty-six hours' old. He had legged it for many weary, weary miles through the baked bare gulches. Then, camping close to open country, he had waked just in time to descry the outlaw returning from a night sortie for water. Peeler sent his mule scampering away up the ravine, and as he scurried to cover, he threw down on the Sheriff. The burro dropped in its tracks.

"Good-by to the eats," was all Bud said, and ducked swiftly behind shelter.

Peeler was now comfortably hidden behind a wall of earth about fifty yards in front, whence he popped at Bud from time to time. Bud would promptly let fly whenever he saw anything to shoot at. They had faced each other thus for five hours.

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So far as he could discern, the Sheriff had not touched his man. Indeed, he was heartily thankful to be unscathed, for the manner in which G. Peeler pumped his 25-35 was a revelation. Bud's earth breast-work was furrowed along its top, and chipped and pierced by bullets, all striking a hand's breadth of where he had last been visible to the outlaw. And all the time not a word was exchanged, not a sign of recognition passed.

A buzzard, drawn by the uncanny instinct of the scavenger, floated high in air above their heads, waiting for the meal he knew would be provided before the sun dipped. It was now at its height. The outlaw fired again. Bud gave a cry, broken off in the middle, and commenced to flop about behind his shelter.

"No good," Peeler called out. "Poor work! You can't play possum with me that way."

He peeped out cautiously. His enemy lay as though lifeless.

"Huh," said Peeler, with an uncertain laugh, "he's trying to fox me. No, sir, I'll just wait snug here until he moves. We'll see who can stick longest. If he's dead, that bird'll soon go for him."

As stayers, they were both phenomenal. An hour—two hours—three hours dragged by. Still the buzzard wheeled in glancing flights; still the man in the fissure lay as he had stretched out. The outlaw could see nothing but a flap of his open collar. He tried a shot under it; no result. Next he raised his hat craftily on the barrel of his rifle—not a sign from the pursuer. Grown bolder, he darted an arm up and back—still no move.

"All the same, he's playing possum," he muttered. "We'll see who can stick it out longest. I wonder if I did get him, though. I wonder now."

The afternoon wore away. The outlaw was growing very uncomfortable and chafed hotly. His legs were cramped; that cursed bird was poised directly above him; he had not touched water or food since sun-up, and the heat was terrific. Suddenly his gaze was drawn to his right. A figure was toiling in their direction along the opposite rim of the gulch. He rubbed his eyes, muttered, rubbed them again; for it was a woman. Then he sighted on it cautiously, just

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to be safe, but lowered his weapon in a moment, recognizing Pauline. From where she moved, both hiding places were visible, but she affected not to see the Sheriff.

"Gus," she called. He could see that she was panting in great distress.

"Hello," he answered. "What're you doing here?"

"Gus, they're after you. The whole country's hunting, Gus."

"I know. But they've got to catch me first."

Pauline appeared to discern the man in the fissure for the first time, and clasped her hands together and gave a cry.

"What've you done?" she shrieked. "What've you done now, Gus? You've killed another man. Oh, he's dead."

"He is? Good! Serves him right."

The man slayer sprang gleefully to his feet and gazed across at his foe. Instantly a spurt of flame darted from the fissure. Peeler let his hands drop, a dazed expression coming on his face. He clutched his side and sank forward against his mound. His body started to slide down the wall of the gulch—slowly at first, then with a rush, sand and pebbles cascading behind it.

The Sheriff of Bill Green County laughed and stood up. Pauline was running toward him, sobbing in her relief. The buzzard came lower, in a wide spiral sweep.

□ □ □

The Black Bass— And How to Catch Him

Continued from page 32

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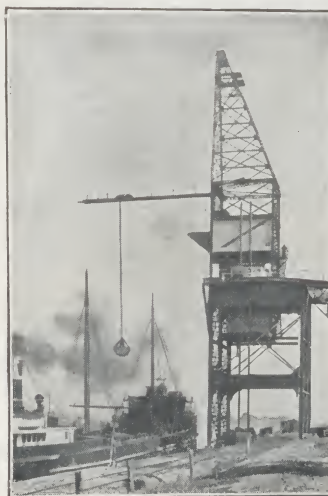
It is heavy enough of its own weight to be cast without the addition of a sinker. To go out casting without taking a No. 5 spoon of some famous brand along is to miss one of the best features that the casting game holds forth.

And what of the pork-rind lures? They have suddenly come into prominence; they are for the man who desires a light lure and light tackle. Strips of pork rind of various brands come put up in jars and are handled by any sporting goods establishment. Years ago, we were wont to cut our own pork rind pieces, generally in the shape of a frog. But it may be said that the purchased rinds are hard to equal. You can make your own rig for casting this rind-piece. Simply take off a fly or feathered gang from a spoon of this sort and slip on a bare hook. Then hook on your rind-piece and you are well fixed. The rind as it is reeled in the water has an undulating motion, which, in combination with the spinner or spoon, is very tempting. A No. 3 size spoon is almost ideal for this type of fishing.

After many years of experience in the use of lures for black bass covering most of the best bass waters on the North American continent, I am willing to say that in the above will be found some of the best you can lay hands on. By a thorough system of elimination these have been allowed to remain. I hold that any bass fisher having a specimen of each of the above lures I have mentioned is capable of getting as many if not more fish than the angler otherwise outfitted. It embraces an under-water minnow, a wobbler minnow for casting up to the pads, in open water (for it is not weedless); a weedless surface or wobbler minnow that can be cast into the pads and up to shore; a spoon hook of the No. 5 type, regulation trolling sort; a weighted bucktail or feather fly with a No. 3 spinner to it; and lastly, but not least, the spinner and pork-rind combination. Where in the past the bass fisherman's tackle box presented a cluttered-up array of upwards of thirty minnows and other devices, now we have trimmed down to these.

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What Irrigation is Doing for Western Canada

Continued from page 24

and connections from Halifax to Vancouver.

An additional area of 100,000 acres in the Lethbridge district originally developed by the Alberta Railway and Irrigation Company was taken over by the Canadian Pacific Railway, and has advanced to a high stage of development with many wonderful records made by men who have farmed with its help.

The whole case for irrigation is removed beyond peradventure of any sort, and is safe in the hands of the Western Canada Irrigation Association, a great body of representative men who speak for every conceivable interest affected by irrigation.

This Association made its début in 1907, and what has been accomplished largely through its persistency is nothing less than astounding, and like most else in Canada it, too, is *still in its infancy*.

Perhaps the most recent demand for an emergency tap of moisture comes from the south-west corner of Saskatchewan, where a scheme costing approximately one million dollars is well under way, and will take in something like 125,000 acres.

Whether as an investor in its bonds, or as a farmer participant in the advantages of this great development in agriculture, the irrigation story must command the keenest interest as it will stand "the most searching investigation."

All honor to the men who have broken up these thousands of square miles of prairie and are farming them wholesale, but what will make *the best* for Canada is to see the monotonous sky-line relieved by hundreds of self-contained homes of self-reliant people dotted all over the landscape, each with its garnishing of trees and little home paradise of flowers, fruit and vegetables—all of which (as some of the pictures will indicate) are not only possibilities, but are the incidental products of an irrigated farm.

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THE VAULTING RAINBOW

Herein is told the story of the rainbow trout (Salmo iridius) in its Canadian Habitat; Facts of much importance

By Robert Page Lincoln

THE value to Canada of the presence annually of thousands of tourists and fishermen within her borders cannot be exaggerated. This great host is made up of men of means, and, on the whole, people who do things and are quick to see values that do not escape attention. Many a wrong impression of Canada has been corrected by a trip into the heart of her wilds; and many an angler has found out that she has not only fish and fishing of the highest possible attainment to be had, but have come to realize by direct contact with her business and industrial life that investments can be made therein in a material way to the good of all. Canada's annual influx of tourists, therefore, can be seen from two sides, or angles; one, that of the pleasure to be got, and the other, the material gains to be achieved. Probably no country in the world can offer so great an outdoor attraction as Canada; no country has such an outlay of rivers, great and small, and lakes in such profusion; the claim to pre-eminence is complete. Let us consider this more closely and awaken some idea of Canada's claim to the position of an Angler's Elysium. It may cause some surprise to know that in the Province of Ontario alone is contained one-third of the fresh water of the world, and geologists state that over one-half of the world's supply of fresh water is contained in the intricate system of waterways that make up what is known as the Laurentian basin. The bulk of these waters still abide in a practical wilderness; they are clear and transparent and are the home of a vast supply of fish of all varieties, as large in fact now as in the days of the aborigine. It is not strange that in these waters are found so many species of fish. The environment is ideal for their perpetuation and continuance, and provide un-

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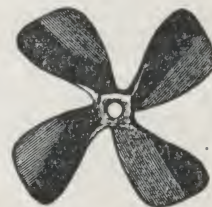
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spoiled opportunities for the visiting angler who has tired of waters elsewhere which leave only disgust in their wake. And now, as an added attraction to the angler, the introduction of the rainbow trout into Canada will permit the catching of it, proving an enhancing addition to the already vast supply of speckled, or native brook trout that are justly the pride of Canada.

Both the rainbow trout and the brown trout are introductions into Canadian waters. They are not native to Canada. We have previously treated of the brown trout (*Salmo fario*) in its Canadian habitat; now we shall take up the case of the rainbow trout. In its native state it was discovered in the State of California, and Dr. W. P. Gibbons, finding it there in the year 1878, gave it the name of *Salmo iridia*, which translated into English means: *rainbow*. Obviously it was the old rose or pink streak on its sides that called forth this designation, and that it well merits the compliment goes without the saying—it is truly like a rainbow in the heavens. A vaulting rainbow trout is the very synthesis of everything that is beautiful, and hence attractive. To the angler it is a fish known for its gaminess. To catch it in cold waters such as the north offers is to realize what real fishing means.

From the date of its discovery in the State of California to the present day, the rainbow trout has seen the widest distribution of any fish specie known to the world. It has been introduced into the streams of the British Isles, France and Germany. It has been planted in the streams and waters of southern South Africa, so that excellent fishing for it is there to be had. From far-off New Zealand, too, comes enthusiastic verdicts of the rainbow's game qualities, thus proving it a fish that has attained to an international reputation. In the waters of the North American continent it has been planted very nearly everywhere; in the States it is gradually taking the place of the native brook trout that has been forced out. And in Canada it has been introduced, and that in the future it will become one of the best known fish in the north is within the range of possibility.

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rainbow trout into the waters of that State. Acting upon this resolution, a consignment was planted in those waters. The trout in question increased in numbers, and gradually spread. To-day fourteen to twenty pound specimens have been captured in the St. Mary's River, and in the Canadian waters of the Soo rapids there are records of a monster specimen of close to forty pounds being taken.

The exciting tales of the marvelous fighting ability of the rainbow trout spread into Canada. A clamor was raised that Canadian streams be stocked at once, for the fish was said to far out-do the native speckled trout as a fighter on the barbed hook. Hence some of the provincial streams in the neighborhood of the Sault Ste. Marie were planted. From there the spread of the rainbow trout (of its own accord) has been complete. Specimens of the rainbow trout are now caught in the Steel River, having gone that far north. But it has even leaped the Height of Land, so to speak, for it is now found in the numerous streams that flow into James Bay. In the network of lakes in the neighborhood of Timmins on the Transcontinental Railroad, rainbow trout averaging five, six and up to eight pounds have been captured. An investigator detailed writes me: "You will find about twenty miles west of Timmins the Kamiscotia River, and a regular network of lakes of which the largest one is appropriately called Trout Lake. It is a jewel of a lake to look at, with numerous small islands and a water so crystal clear that none of the lakes of the Alps can compare with it, but nevertheless so deep that you are unable to see bottom a few hundred feet from shore. It was in this gem of a lake that I caught the first rainbow trout, which weighed about five pounds. The rainbow colors being very strong. Since then I have caught rainbow trout in the Redstone River, about ten miles southeast of Timmins. I have also heard evidence from reliable sources of vast numbers of this species of trout being caught and noted in the Burnt Bush River, a tributary of the gigantic Hurri-canaw River near the Ontario and Quebec boundary. I have not tried to trace the origin of the rainbow trout in the mentioned places, but as the

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local places are far from the railroad, and difficult of access, the only solution or conclusion I can draw is that rainbow trout have been transplanted into the upper reaches of the Matagami River, and as it is one of their tendencies to migrate downstream, they could easily transplant themselves to these localities."

Of all the trout species and varieties that I have angled for, in my estimation the rainbow trout leads over all. To have one leap time and again over the water, defying circumvention; to play even a four or five pound specimen for a half hour before it can be netted, is to realize more fully the attractiveness as an angling proposition of the fish in question. A good-sized brook trout puts up a fine fight, using under-water tactics, but will not always rise off of the water unless the line is drawn very taut. But the rainbow trout when captured breaks from the water, leaping into the air time and time again, and this on a slack line without any forcing. It is this staying quality that has won for the fish its principal claim to leadership in the estimation of many anglers. It takes the artificial fly with a dash and vigor, thus proving undeniably its gaminess. But although it is a fish that desires cold water it is not like the brook trout, for where the brook trout cannot survive in water of anywhere near a heightened temperature, the rainbow trout is not so sensitive and will thrive in waters that the brook trout have left. Streams, therefore, that are poorly adapted to the brook trout when stocked with the rainbow trout become productive and enhance the charms of the country through which they flow. But, the question is asked (and not without thoughtfulness and justification), does the rainbow trout destroy the brook trout; does it consume the young of that species as food? And if it does, is its introduction and perpetuation in Canadian streams a wise course to pursue? I answer this by saying that so far as I have been able to find out through personal investigations, and so far as others (fish culturists of prominence and anglers possessing a vast knowledge in such matters) have been able to learn, the rainbow trout is *not* detrimental to the welfare of the native brook trout. I have caught rainbow trout and native brook trout in equal numbers

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on the same stream, side by side, so to speak; and of fifty rainbow trout stomachs opened, not one contained the presence of a smaller trout of the brook trout specie, though minnows of two or three kinds and much insect food were contained therein. This speaks well, of course, for in a stream where brook trout and rainbow trout are found together, the opportunity of the rainbow trout to destroy the native trout is manifest, but this has not been the case. The stomachs of a large number of smaller rainbow trout, when opened, showed them to have consumed insect fare almost wholly. A well-known angler whom I asked in regard to this matter, also seeking his opinion (for I knew he was conversant with the matter to a great degree), stated:

"Among vain imaginings should be placed those warnings of hysterical anglers against rainbow trout. They will aver that rainbow trout in a stream soon will destroy all the brook trout. This never has happened in any stream and never will happen. In all trout streams, the rainbow trout will always be in a hopeless minority. He grows lusty and vigorous in all trout waters where the brook trout thrives, and he probably, occasionally, takes toll of his more exquisite cousin, but he is not prolific enough to become a monopoly. In most streams the supply of rainbow trout must be constantly replenished from the hatcheries or it will dwindle away to an occasional specimen. The rainbow trout will *never* run out the brook trout. But he will at all times furnish a fighting diversion that will tingle the butt of a rod as no brook trout can do!"

"The rainbow trout," says Kelly Evans, in a concise monograph on the fishes of the Province of Ontario, "feeds chiefly on shrimp, insects and larvae of insects, while the larger specimens in the St. Mary's River are known to be fond of the cockedooch (a species of minnow), and of small herring. In general, however, the fish, *unlike the brook trout*, is not cannibalistic, and this fact greatly facilitates the raising of young fry to the fingerling stage in hatcheries. It prefers waters as a rule of somewhat higher temperature than those favorable to brook trout, and can be expected to spawn in Canada from about the middle of May to the middle of June, while the period of incubation

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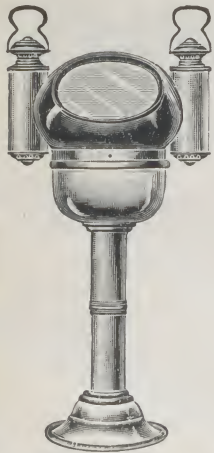
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should be approximately fifty days. The rainbow trout prefers a gravel or mixed gravel and stony bottom for spawning purposes, though if these are not available, they will spawn on clean sand. In game qualities, the rainbow trout ranks very high indeed, being held by many to excel even the brook trout in this respect. It is to be captured with a live minnow or cockedoosh, or by means of various artificial baits, such as small trolling spoons or artificial minnows. Strips of fat pork are also said to be effective with the larger specimens, while the trout will also rise eagerly to the artificial fly, the best for the purpose being light or bright-colored ones, such as the Parmachene Belle and Jungle-cock. No more exciting sport could possibly be desired than to tackle a large rainbow in the turbulent waters of the Soo Rapids, where the fish is now to be found in considerable quantities, and already the fame of the fish in this particular vicinity is becoming widely known. It is to be noted also that, as a table food, the rainbow trout ranks second to none among the sporting fishes."

The rainbow trout of the Soo Rapids reach all the way up to twenty pounds in weight. Four, five, six and eight pounders are met with, and the best time for them is just as the dusk of evening is settling on the waters. One can imagine better just what kind of a fish he has to contend with when he once sees those rapid waters. To believe that *any* trout, no matter what size, could hold his bearings in that crashing, mad-cap series of whirlpools and unharnessing of fluid force, is to realize how strong-finned the fish living therein happen to be, and what a gigantic fight they make when captured. One and two-hour fights with rainbow taken in the Soo Rapids are common, and a rainbow tipping the scales at eight and one-fourth pounds fought hammer and tongs for five hours and fifty-five minutes exactly by the watch before it could be brought to land. It is in contemplation of this exceptional gaminess that the rainbow has been placed in a class by itself, and to say that it is the fastest game fish that swims, can be proven by facts. And it is this fish that is gradually, almost imperceptibly taking over the waters of eastern Canada for its home. Can it be that Quebec Province too has been populated with this wonderful fish. It



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seems so, for I have to hand a letter from that province stating that a certain river is teeming with small trout which have a particularly well-defined rosy streak down the sides. That answers for itself. The trout in question is a rainbow!

Probably the distribution of the rainbow trout in Canada is to-day greater than suspected. They may have escaped attention, and it is therefore necessary to give a description of the fish so that anyone catching such, or seeing such in the waters, will know its exact identity.

The rainbow trout has a comparatively large dorsal fin (the back fin, to be more clear), and upon this will be noted from five to eight rows of black spots. These spots are dark. On the body there are also black spots, which occur mostly above the lateral line. Some of these black spots occur on the face of the fish. The back coloration of the fish is generally a deep green; its belly, or underparts being silvery in coloration, and down each side of the fish will be noted the rosy stripe often beginning at the gills and ending at the root of the tail. This rosy stripe, by the way, will instantly mark the fish for identification, for no other trout possesses it.

It is generally taken for granted that when it is possible for it to do so, the rainbow trout will run down the stream it was born in, and will take up its life in the ocean. It does, however, return to the freshwater stream during the spawning season, and then again, after fulfilling the duties of procreation, will run down to the ocean and there take up its life as before. That they do not all of them consistently do this is true; probably the bulk of them cling to the fresh waters; some, however, like the sea-run brook trout of the Eastern Provinces of Canada, do go down to the sea and there grow fat from the immensity of food they have to select from. In the ocean, their beautiful colors fade out and they become silvery in coloration; in fact, so much so, that they are readily mistaken for the steelhead trout which they resemble.

The Canadian Illustrated Monthly

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